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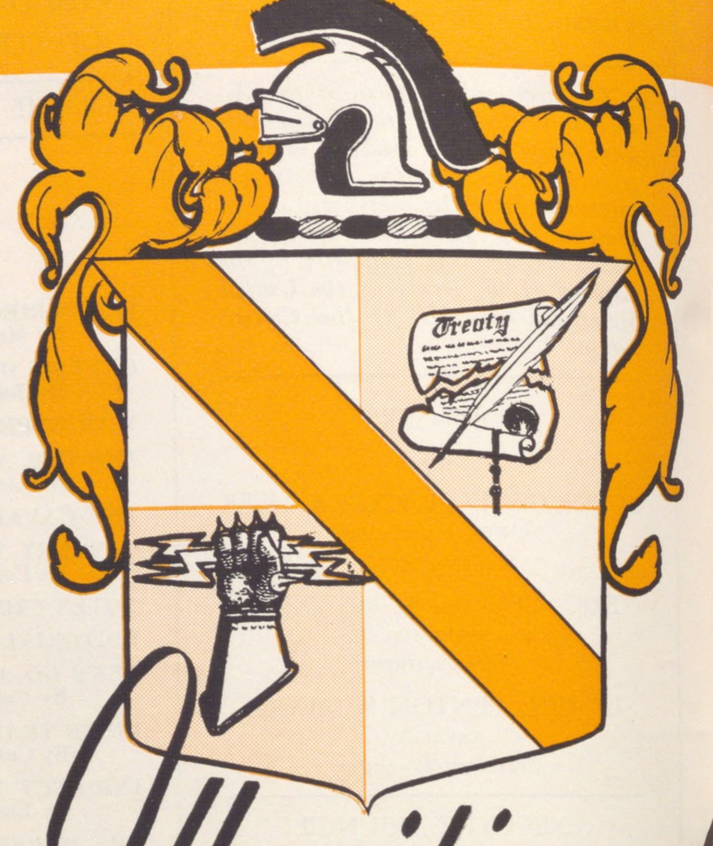
BLITZKRIEG



Illegitimat

By
Major Reginald Hargreaves
British Army, Retired

WITH the enlargement of the scope of conflict, strategy—the science of combining and employing military resources to ensure victory over the enemy—took its place as the prime art of war; tactics being recognized as the term covering the actual means by which a strategical conception was carried out. Moreover, with such early giants among the great captains of history as Hannibal and Scipio Africanus, the principles became crystallized and axiomatic; the tactical means of carrying out strategy's behests remaining, as they have continued to remain, fluid and subject to those changes imposed upon them by the increase or decrease of influence on the course of an action imposed by one or other of the fighting arms. This rise and fall of influence, as is generally agreed, owed its fluctuations to the introduction onto the field of a steady stream of new inventions in the way of novel implements of war, and of the countermeasures devised to nullify them. Offense devised some new tactical combination, or produced some superior weapon, with which to enforce its will; defense promptly countered with a protective combination or device to counteract the effect of the innovation.

However fixed the fundamentals of strategy may be and however inviolable its axioms, in the realm of Grand Tactics—that halfway house between abiding strategic principles and ever-fluctuating tactical practice—there has been room for many doctrines of warfare. And since the particular doctrine of the moment can very considerably influence the tactical means employed to gain a strategical end, by the examination of the doctrine prevailing with the respective armies prior to their embarking upon war, we may often find the answer to the query why one of two apparently well-matched adversaries should have succeeded in inflicting defeat upon the other. In the formulation of doctrine there is always latitude, sometimes subconsciously admitted and sometimes consciously welcomed under the easy-going disguise of flexibility; and where latitude resides there is always a room reserved for error! This in its turn, leads to the irrefutable conclusion that war is won by the side that makes the fewer mistakes; the side, in effect, whose pre-war doctrine has

most accurately foreseeen the manner in which the foreshadowed conflict will be conducted.

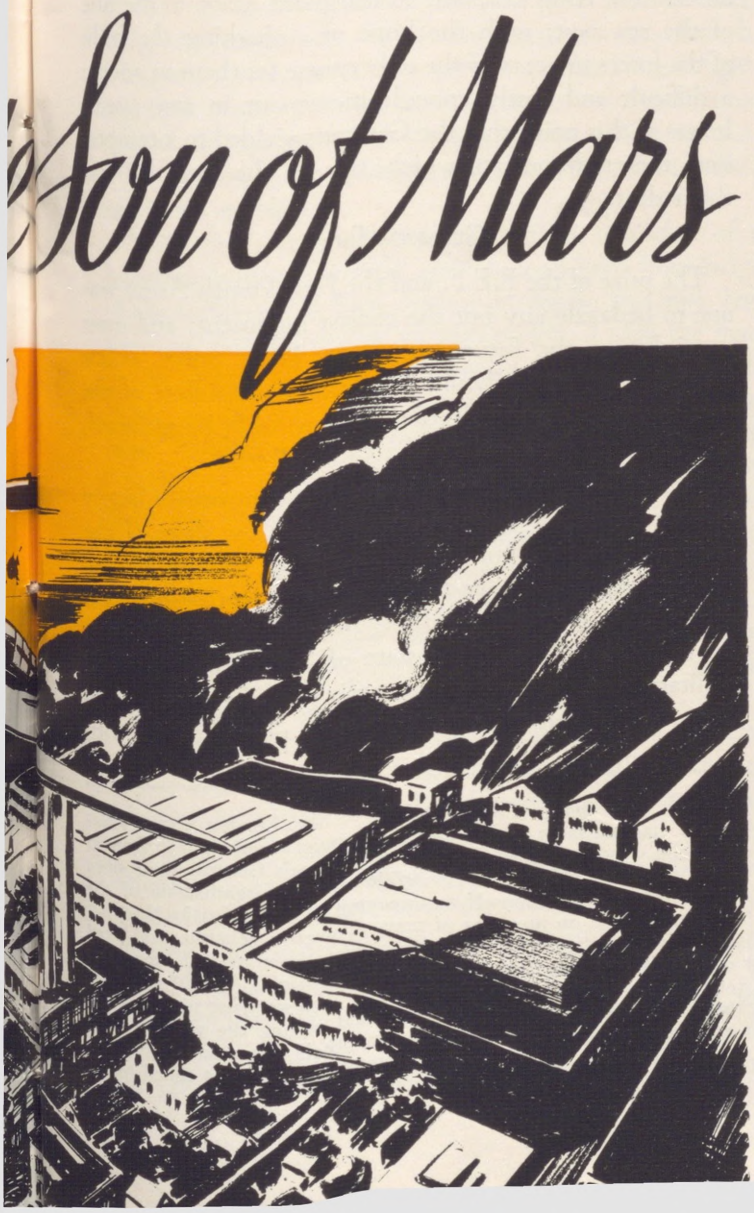
The influence, therefore, of pre-conflict "doctrine" can scarcely be exaggerated; and its study, particularly the study of where it went wrong, cannot fail to be of the greatest interest and instruction to the serious student of war.

One thing which investigation discloses with almost painful monotony is the tendency of doctrine to become static. Once formulated, it rams its toes in the ground, maintaining its original tenets with an obstinacy altogether regardless of the dangers which the over pertinacious are liable to bring down upon their own heads. For "doctrine" only formulates the means to attain a given end; and such means being of a tactical rather than of a strategical complexion, must ever be subject to change.

* * *

September, 1939, found the Western World again arrayed in arms; and the doctrines of warfare, developed by those who had occupied high place in various military councils for the previous twenty years, assumed outstanding importance, immediately the pen of diplomacy was superseded by the scarcely more lethal weapons of armed conflict.

Much had been heard of the novel German doctrine of Blitzkrieg, or Lightning War; and it was not long before the opening phases of the Polish campaign afforded an illuminating manifestation of the new concept in action. Making all allowance for the Polish lack of strength and insufficiency of metal, up-to-date organization and equipment, the extent of front to be defended, and the lack of coördination and control exercised by their Higher Command, there can be no question that the "try-out" of the Blitzkrieg doctrine was attended by astonishing but unequivocal success. With long-distance aircraft roaring ahead to bomb or drop parachutists for the purpose of mopping up small, thinly defended back areas, sowing alarm and interfering with communications; with fast tanks and coöperation-'planes as a mobile probe, backed up by motorized infantry and artillery with which to exploit the incision effected; and the whole followed by the plodding mass of the army to consolidate the ground won, the entire technique was based upon the classic wedge formation of antiquity. To the age-old original concept had been added extreme mobility capable of carrying with it and projecting its own very considerable fire power—a technique, in short, which drove in a rapid, armor-protected arrowhead, producing a weight of metal which, where a mobile force was concerned, was quite without precedent. Speed, strength, fire-power and ultimate support, at last, as it seemed, the ideal assault combination had been achieved. The experiences of Norway went far to substantiate the belief that the rushing overwhelming success in Poland had not been the outcome of meteorological good fortune and the feebleness of resistance put up by a tremendously overmatched opposition, but could be honestly attributed to the fundamental soundness of that doctrine of Blitzkrieg which had appropriated every modern offensive weapon to its purpose and combined them in a theory of war wherein one and all could be employed with the maximum of efficiency and effect.



Then came the May of 1940, and with it the first clash of the armies of the Reich with adversaries in possession of resources held to be capable of producing an armament equal, if not superior, to that of their opponent.

Belgium, owing to her obduracy in maintaining an attitude of strict neutrality, had, with Holland, to stand up to the first blast of the Blitzkrieg loosed against it, without the immediate support of French or British troops to help stem the onrush. Fighting bravely and well, her armies yielded ground in no disorder, withdrawing unbroken to the pre-arranged line of resistance along the Albert Canal. To the southwest lay an area of territory, between the right of the Belgian-French-English northern field-armies and to the left of the Maginot Line proper, which faced the broken countryside of the lower Ardennes. It was a terrain defended by the river line of the Meuse, and beyond lay the Ardennes *champagne,* encumbered with so many natural geographical obstacles that the French High Command, strangely forgetful of 1914, had pronounced its passage by modern mechanized and motorized divisions to be an impossibility.

Nothing can be more dangerous than to attribute to an adversary an inability which one has found in oneself.

The French High Command, having esteemed the passage of the Ardennes as an impossibility where their own troops were concerned, were badly "caught napping" when the Germans managed to achieve it. Then came the still inexplicable incident of the neglected bridge at Maastricht. With this in their hands, the Germans could, and did, utilize the artery to pass over armored forces in ever-increasing numbers; and all that lay ahead of them were a few divisions of second-line troops, thinly disposed ***and entirely unprepared for the type of warfare to which, almost immediately, they found themselves committed.***

Over the last twenty years, French war doctrine, recalling the costly failures of the 1914 *attaque à outrance* and oblivious to later lessons, even of the same campaign, had concentrated upon the concept of a war to repel, to be fought from fixed defensive positions, i. e., the Maginot Line. In the service of that doctrine France had poured out all her wealth, as she had framed her training and decreed and fashioned her equipment for it.

Here was a break-through on the flank of the fixed Maginot defenses which threatened to turn them, at worst, into little more than a vast man-trap or, at best, into a fortress line immobilizing as many, if not more, fighting men than the enemy required to "contain" it.

In a matter of hours, the German armored forces materially widened the gap separating the Southern French armies from those of the British, French and Belgian group operating farther north in the Low Countries. The few French divisions in the path of the inrush fought with that gallantry the world has come to expect of the *poilu,* but to little or no avail. Trained as little more than an adjunct to the static garrison of the fixed defensive *line,* they were without experience of what is required of a *mobile defensive zone.* Neither were they in possession of the necessary equipment—tanks, armored combat cars, antitank batteries, long-distance aircraft and Army coöperation-'planes—vital to repel the onslaught of that heavily-armored, fully-metalled spearhead, with its ample complement of fighter and bomber aircraft, upon which the doctrine of Blitzkrieg is founded.

Despite the lessons of Poland and, to a lesser degree of Norway, the French had met heavily-metalled attack in depth, not with equally heavily metalled and fluid defence in depth, but with inadequately metalled defense in line. The gap therefore, widened until an enormous gulf separated the two armies of the Allies operating, respectively, in the north and south. Thus had come about the one thing which, at all costs, it should have been the first object of the supreme Generalissimo to avoid—the sundering of the Allied battle front; and the oncoming enemy were in a fair way to obtaining their immediate objective of the Channel ports.

Gamelin and fifteen other victims of a false doctrinal concept were expunged; but that act of retribution[1] was of small value in restoring the desperate situation which their adhesion to a doctrine upon which they long since should have turned their backs, had so materially helped to bring about.

An immediate counter-stroke to close the gap was the obvious reply; and it is a reply to the possibility of which Weygand, upon hurriedly assuming command, is bound to have given his attention. Here again the consequences of adherence to a fallacious concept inhibited embarkation upon the one and only course. Lacking the equipment necessary for a field army to risk encounter with modern mechanized and motorized forces, equipment which had been denied lest the fixed line of defense should go short of a single gun-sight or slide-rule, Weygand's "Army of the Refused Flank" dared not essay a counter-stroke. Vital as it was, such a counter-stroke stood small chance of success, and in event of failure there would be left only a broken remnant to guard the flank from the Maginot Line to the sea and the vital "hinge" in the region of Montmédy where the fixed defenses joined onto that defensive flank itself.

With no hope of a counter-stroke to join the gap, the difficult position of the Allied Northern Armies was rendered even more perilous by the sudden and entirely unexpected defection of the Belgian contingent acting under orders from King Leopold. A rearguard action to the line of the sea-coast, with the hope of embarking the bulk of the forces intact, was the only course for them to adopt; a difficult and costly enough movement in any event. It was at this point that the Germans yielded to a temptation, their surrender to which, may in the long run cost them dear.

GERMANS ERR

The prize of the B.E.F. and the First French Army was one to bedazzle any but the coolest judgment; and most unwisely, as the future may very likely prove, orders were given that it should be attained regardless of the cost involved. In this decision, it may fairly be surmised, the Germans were guilty of a cardinal error.

Not only did the effort impose an enormously bigger call on men and *matériel* with results far short of the original aspiration but on the chance of securing an immediate gain, *the opportunity, at least temporarily, was lost wherein to stage a lightning invasion of Great Britain;* an invasion which, in the state of public confusion and military denudation then prevailing in the island kingdom coupled with the Royal Navy's preoccupation with the immediate work of rescue and evacuation, might well then have been successful.

---

[1] It is of high significance that one of M. Reynaud's first acts after the "break through" was to call in as his right-hand adviser General de Gaulle, tank expert and leading apostle of the doctrine of fluid defence in depth. In which particular, Victor Gordon-Lennox, Diplomatic Correspondent of the London *Daily Telegraph,* has put it on record that: "We must conclude that General Gamelin, who had been Chief of the French General Staff since 1931 and thus primarily responsible for the organization of the French Army, was himself an exponent of the defensive theory—a theory based on numbers of men, protective concrete, and fixed artillery. The generals who have now been retired were undoubtedly persuaded that this theory was right. Against this conception another school of thought has been growing up inside the army. Its exponents were to be found among the younger generals, colonels and commandants, and their views had gained the sympathetic ear of M. Reynaud long before he was called to fill the highest post in the Government."

Had the Germans been content to "contain" the Allied armies in the North while at the same time ensuring that Weygand's army in the South was firmly held, out of their very considerable resources such as expeditionary force could have been got together which, opposed by nothing much more than raw recruit formations, should at least have been able to force a landing, the ultimate effect and consequences of which would have reached far forward into the incalculable.

The temptation to try to cut off and surround the British Expeditionary Force and "put it in the bag" *en bloc,* was more than the *Fuehrer* could resist, whatever his Generals may or may not have counselled. This meant the exhaustion of many more resources, and for an unfulfilled end, than the mere enforcement of retreat would have entailed; and the consequences of that unnecessary and unfruitful call upon "surplus" may well make themselves grimly apparent in the days to come. If the German High Command, like Aesop's fabled canine, preferred the shadow to the substance, it must freely be admitted that the "shadow" upon which they concentrated possessed a very considerable degree of "substance."

With the British Expeditionary Force miraculously out of their grasp, they turned the full blast of their Blitzkrieg technique to the immolation of the French. Doughty, quick-witted and resilient as the French fighting man may be, in the absence of the only indoctrination of defense by which lightning war can be successfully combated, immolation was the unfortunate *poilu's* inevitable portion.

With that much-vaunted but whited sepulcher of a Maginot Line successfully turned, with little knowledge of the technique of fluid defense in depth, and with few technical instruments for its prosecution, it took the man in the ranks a matter of days to realize that, in the matter of doctrine, for over twenty years his leaders had been "barking up the wrong tree." The sudden doctrinal "about-face" implied in Gamelin's replacement by Weygand and de Gaulle came too late to save the situation from disaster. Armies cannot be reindoctrinated as swiftly as their leaders can be changed; neither can the replacement of that technical equipment which follows a reorientation of doctrine, keep even the laggard pace at which the technical outlook of the fighting ranks undergoes its difficult change.

To all intents and purposes, the Battle of Central France was already lost when Paul Painlevé and André Maginot substituted the dead buttress of steel casemate and concrete emplacement for that living wall of fluid defense in depth to which all the lessons of 1918 had pointed as the only answer to the modern mobile, heavyweight attack in infiltration and armored spearhead.

In effect, the experiences of May and June all go to underline the fact that the Germans had prepared for ***this*** war, the French for the least illuminated periods of the ***last*** war, and (since an army is only as strong as the trained reserves at its immediate disposal) the British for no war at all; although in justice it must be added that such training as the microscopic army of Britain had undergone had been on the lines of mobile defense in depth.

It has often been the fate of great thinkers to become the posthumous victims of false interpretation. Even worse is the fate of the man whom death claims before the completion of a final revision of his work by which an entirely fresh "inspiration" would have been derived. Such, very largely, was the fate of Clausewitz, perhaps the profoundest military thinker of his own or any other generation.

In his earliest studies of the doctrine of war, Clausewitz came to the conclusion that what he described as the "Napoleonic strategy" was the only concept which promised to bring victory in its train. It was many years later that, probing even deeper into the heart of the mystery, he realized that the Napoleonic formula was subject to considerable variation, that its "totalitarian" quality was, on innumerable occasions, very far from being as "total" as the military circumstances demanded.

While laying it down as axiomatic that "war is only a continuation of policy by other means," Clausewitz had also grasped the essential fact that successful war can be waged only as a coherent, continuous whole, directed to the complete overthrow of the enemy's power of resistance. Upon closer examination it is found that he *confirmed* this truism by concrete example of the best moments in Napoleonic strategy, but he did not *deduce* it from there.

Probing even deeper, his next discovery was that the complex conditions and prerequisites necessary to commit "the complete act of war" so seldom existed as to render a successful attempt exceedingly rare. To hazard "the complete act of war" under any other than ideal conditions was to put a heavy premium upon failure. For "total war" can only be waged if resources of all kinds are sufficient, ***and can be kept sufficient,*** to prosecute it almost indefinitely and with equal intensity at all points of contact with the enemy; an "ideal" demanding so many almost impossible prerequisites as almost to be unobtainable.

Some alternative doctrine, therefore, short of "the complete act of war" but sufficiently promising of result to be hazarded, was obviously an urgent necessity. It was upon the search for this formula that Clausewitz was busily engaged when death came to arrest those labors, which no one realized better than their sponsor were very far from having reached completion.

Searching among the mass of his written work, actually no more than elaborate data from which a final conclusion had yet to be drawn, his successors have ever sought for some absolute (but workable) panacea for inevitable and universal victory. Needless to say they have entirely failed to discover it; although brilliant intellects such as the elder Moltke and Count Schlieffen were enabled to evolve the successful formula for a particular military situation even from the uncollated fragments that formed their legacy.

It was left to their successors to evolve the concept of Blitzkrieg; and it is perhaps a measure of their mental stature that already they have claimed for it that it constitutes ***the*** answer, the perfect formula for victory, for which Clausewitz himself was searching when death came to him. Despite its success, however as a formula for the extirpation of nations inadequately furnished with man-power and material, Blitzkrieg *cannot strictly be regarded as anything more than a political expedient dressed up in a military uniform.*

PERVERSION

This political quality with which the whole doctrine of Blitzkrieg is affected constitutes not only a damaging admission but a concrete defeat. According to the current German theory, Clausewitz's dictum that "war is only a continuation of policy by other means" has been perverted into the fundamentally different hypothesis that war is no longer so much the culminating and decisive military act as part and parcel of a diversified formula wherein propaganda, underground diplomacy, economic pressure, the pre-war concentration of industry, the scaling down of the civil population's standard of living, the preparation of a "receptive condition" by the fostering of internal treachery as in Norway and Holland all play an equally important part. Even the choice of the point of assault, where alternatives exist, must be a matter for political rather than for military consideration. Further, as Professor Rosinski has pointed out, "according to this new conception of an 'extended strategy' developed in leading Nazi circles, war is no longer to be the acid test that it formerly was, as military action itself should not be started before the other factors have succeeded in creating in the enemy camp a 'revolutionary situation' under which he is bound to collapse."

It is in this context that the doctrine of Blitzkrieg must be considered, if the error of those who would link the concept up with a modernization of the "Schlieffen Plan" is to be detected and exposed. Study of the respective "motifs" of the Blitzkrieg formula and the "Schlieffen Plan" make it clear that, apart from the fact that both conceptions aim at securing swift decision, the two concepts are erected upon principles almost diametrically opposed to one another. Schlieffen's whole strategic platform was built up on the firm planks of ability to meet and overcome the opponent in open battle; his aim was, by the exercise of superior skill and the employment of purely military means, to bring about a swift and unequivocal victory. The idea of the Blitzkrieg is characterized by the aim of achieving victory by every means, open and surreptitious, of which the employment of military might is only one—and probably, the last one to be called into requisition.

Against a weak, unprepared, internally riven and already intimidated antagonist, it constitutes a formula to which the Nazi leaders have looked for results with confidence and, up to the time of writing, with considerable justification.

But what are its chances of success against an opponent whose land is strong enough to stave off the first impact, an opponent, moreover, whose land is rich in natural resources, whose command of the world's oceans renders possible the purchase and transhipment of additional supplies—an opponent, in other words, who can afford to indoctrinate himself with the concept of a war of solidly developing and maturing effort, increasing in strength as the whole reserve of the motherland with steadily-increasing pace is marshalled to the furtherance of the struggle.

It will be against this type of opponent that the vicious political tincture of the Blitzkrieg formula, with its inherent bias towards taking the short view, will inevitably manifest itself as possessing no more than jerry-built foundations supporting an imposing and grandiose façade.

The political mind is apt to overlook the basic fact that war can be successfully waged only by what has been termed "solid, sober military calculations"; and under the current form of "extended strategy" the direction of the whole concept reposes in the hands, not of the military, but of the political leader. Insofar as history may be said to teach anything at all, it teaches that *political interference with the direction of warfare is practically certain to wreck the cause* on whose behalf it has presumed to interfere. In time of war, a military dictatorship may not prove an infallible guarantee of success; but the alternative of a politico-military satrap in supreme control, who is unlikely to permit considerations of a purely military character to play a part in his planning in any way commensurate with their importance, puts a heavy premium upon the defeat of that country foolish enough to yield itself to such a false leadership.

CONCLUSION

It seems a fair conclusion, therefore, that the theory of Blitzkrieg in its departure from strategic fundamentals, its reliance upon smash-and-grab methods, and its unprofessional acceptance of disproportionate hazards and costs on the offchance of winning a gambler's whirlwind success, cannot, *when essayed against an opponent of anything like comparable strength in men, equipment, resources and doctrine,* be accepted as a sound and reliable concept of war. No doctrine of war can be accepted as wise which is prepared to exhaust all the resources at its disposal at the outset of hostilities, and which possesses no alternative plan upon which to fall back in the event of the initial gambit missing fire. The speed and intensity of Blitzkrieg demands a rigidity in planning which permits little in the way of flexible readjustment, and even if successful is liable to turn into a Phyrric victory for want of the means to reanimate it so that its own temporary triumph may be turned into solid victory.

Blitzkrieg, moreover, contains one astoundingly false psychological premise: that the factor of terror, once imposed, can be maintained and even nourished into an increasingly effective instrument of war. Experience goes to prove that the contrary is the case, that once recovery has been achieved from the initial shock of terroristic methods, the tendency is for the will to resistance to harden.[2]

Once halted, Blitzkrieg's detrimental repercussions widen like the circles of a pool in which has been cast a stone, for apart from the difficulty in reanimating an effort after exhausting that little additional "plus" which constitutes the difference between the ultimate human and the *superhuman* performance, many other sinister reactions are prompt to manifest themselves. Materials of all kinds have to be exhausted without regard for the inability immediately to replace them; casualties are incurred on a scale which leave the ranks, and more particularly the technical ranks, quite disproportionately denuded. Lines of communication are stretched to the point of absolute tenuity, the strain imposed by their many improvisations liable to degenerate at any moment in complete breakdown. Worst of all, the psychological effect on a home population buoyed up to sustain acute privation by the promise of speedy and overwhelming victory and the nourishing fruits that follow in its train, may well result in that "cracking at the back" which constitutes the abiding nightmare of any political who has gambled on winning in a spurt because he is only too aware that prolonged and steady effort is beyond his power to organize.

Blitzkrieg, then, may fairly be regarded as no more than a spurious doctrine to which adherence can only be given when (*a*) the uncertainty of the internal political situation demands the acceptance of the stupendous hazards involved in its attempted prosecution, and/or, (*b*) when the belief is warranted that the opposition likely to be encountered will not prove sufficient hindrance to the speedy and successful conclusion of the operation.

To meet and worst it, "passive defense" is not enough, since its momentum and weight of impact can best be discounted by going forward to encounter it and in so doing, generating a momentum and weight of impact of your own. For example, in the Crimean campaign, on more than one occasion a body of Russian Cavalry, superior in weight and numbers, was overthrown by a less weighty and numerically inferior body of British Horse simply and solely because it *stood still awaiting the onslaught* instead of putting itself in motion and going out, with all the physical and psychological advantages of gathering momentum, to meet it. The activities of the Heavy Brigade on the morning of Balaclava afford another striking example of the value of this contention.

Defense à outrance, of course, demands the support of adequate equipment and material, the absence of which contributed so enormously to the recent collapse of the French field army. Indeed, it may roundly be asserted that the counter to Blitzkrieg demands as heavy and versatile an armament as does the maneuver of the Lightning Stroke itself; and it is impossible not to speculate what course events would have taken had a tithe of the money sunk in the erecting and perfecting of the Maginot Line been spent upon those aircraft, tanks, combat cars, antitank and mortar batteries in which the French, and to a less extent, the British, were so woefully deficient.

But despite the outcome of the battle in Central France, the assertion that Blitzkrieg is no more than a risky expedient still holds good. In the true concept of war, it can hope to hold no higher place. In essence as in conception it can claim to be no more than an illegitimate son of Mars, sired by a seducer of political rather than of military faith. As a gambler's throw, it may restore queasy fortune to its former plenitude; more commonly, it may ultimately result in the player's utter bankruptcy. For, if the "Bank" is strong enough, in the end it is bound to win.

Is Blitzkrieg, then, the answer for which we have all been searching?

Save in very especial circumstances—*most emphatically NO.*

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[2] The bombing, and the outcome of the bombing, of Madrid during the recent Spanish war may unquestionably be cited in support of this contention.

THE IMMUTABLE PRINCIPLES OF WAR

1. Principle of the Objective
2. Principle of the Offensive
3. Principle of Mass
4. Principle of Economy of Force
5. Principle of Movement
6. Principle of Surprise
7. Principle of Security
8. Principle of Simplicity
9. Principle of Cooperation

Their application varies with the situation, the fundamentals of which are time, space or distance, terrain, weather, relative strength, including the physical and disciplinary factors, such as numbers, morale, communication, supply and armament.

FIFTH COLUMN ORIGIN

The expression Fifth Column was first used in Spain by Franco's General Emilio Mola as his army marched in four columns upon Madrid. At the time, Mola declared that in addition to these four columns, a fifth column waited inside the Spanish capitol to welcome and assist his victorious troops.

MAIN USES

1. *Guiding troops to important localities, buildings and vital points.*
2. *Providing local information on enemy's dispositions; signalling objectives to hostile air force; assisting parachute troops.*
3. *Sabotaging defensive arrangements; for example, putting fire control system and telephone systems out of action.*
4. *Issuing orders contradicting mobilization, spreading false reports among defending troops in the hope of leading them to surrender, or giving false alarms in order to spread terror among the civilian population.*
5. *Spreading discontent among the masses.*

Chief of State,
Generalissimo Francisco Franco →

GENESIS OF MODERN WAR★

By JOHN E. KELLY

IT HAS become almost an axiom among civilian commentators that the Spanish war of 1936-39 was a "laboratory" wherein military scientists of other powers tried out new theories and weapons. We believe that it is more correct to hold that the underlying principles employed successfully in the war of 1940 were evolved by the young officers of the Spanish Army Corps of Morocco during the campaigns in the final years of the Monarchy. These men, notably Generals Franco, Mola and Millan Astray, had perfected the principle of the "lightning war" as a measure of economy: economy of manpower, supplies and time, essentials in a theater of war as inhospitable as Spanish Morocco. Tested in the pitiless Riffian fighting, they were ready to use their tactics in the Nationalist Movement, where the world first took notice of something new in the art of war. Prior to the outbreak of July, 1936, however, General Mola had published the theories and their application in textbooks which were closely studied in the war colleges of the Third Reich.

In sustaining a thesis such as the above, it is necessary to employ certain introductory definitions. "Something new in the art of war" may be objected to by those purists who regard the wheel, the bow, the invention of gunpowder, and aviation as the only fundamental variations to the primeval use of force. Similarly, the principle of the tank may be traced to the elephants of Pyrrhus and the armored divisions to the massed shields of the Mace-

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★From the magazine *Spain,* August, 1940.

donian phalanx. It is not necessary to controvert the doctrines of von Clausewitz to produce a variation on the ancient theme; when, after the long stalemate on the western front in the first World War, military theory inclined to a belief in the supremacy of the defense (theories exemplified by the writings and works of General Maginot and Captain Liddell Hart), Generalissimo Franco and his colleagues were planning an answer to the problem. Their solution, which must be adopted by every army which does not desire the fate of Poland, opposes to fortifications relatively small, highly mobile, self-contained units, able to act away from their bases of supply and in case of need, to dispense with the traditional maintenance of lines of communication. These forces, by breaking the enemy's front, and exploiting the break-through to cut hostile communications by "fanning out," are a great factor in destruction of enemy morale, and open the way to the advance of friendly occupying troops.

A principle of warfare should be sufficiently basic to operate successfully in varying conditions and especially with regard to weapon supply. Generalissimo Franco had at his disposal no such thousands of tanks as have been employed this year in the Low Countries and France, yet his tactics were successful in Spain also. It cannot be said that Generalissimo Franco invented the double envelopment of "pincers movement"; it was doubtless already old at Cannae. But the Spanish leader applied this tactic, not once but a hundred times, in a new setting, against concrete and steel fortifications as well as against infantry without cover. The Spanish Army thus took the lead in reëstablishing the supremacy of the offense, the only theory that since the dawn of history has ever consistently accounted for victory. It is the theory of action as opposed to the theory of blockade.

Before considering specific instances of the employment of these new tactics, it is well to review the status of the foreign combatants in the war of 1936-39. Leftist propaganda to the contrary notwithstanding, at no time did the non-Spaniards with the Nationalist Army exceed five per cent of the total of one million men. There were no German infantry or field artillery units in Spain. The eight to ten thousand men who from time to time served in the Condor Legion (the name given by German writers to their countrymen in the war) comprised engineers, signal corps, medical staff, antiaircraft detachments and aviators. The Italian volunteer effort never exceeded 40,000 men, the overwhelming majority were civilians, officered by troop leaders on leave from the Black Shirt Militia and a few retired Italian Royal Army officers. All of these men rendered splendid service, but from a technical point of view, it may be said that they came to learn, rather than to teach a new system of warfare to unprepared Spanish officers. The leadership, the High Command, was Spanish throughout. It is not necessary to consider the much larger numerical foreign contingent in the Spanish Red armies. The Russian planes and tanks proved inferior to those employed by the Nationalists; the Russian Generals who planned Red strategy (again, exclusively of defense) went home in disgrace to meet Stalin's firing squads. The foreign mercenaries in the Red armies murdered a half million noncombatants in cold blood, but the OGPU contributed nothing to military knowledge.

General Maurice Duval of the French General Staff, an observer with the Nationalist Armies, writing in 1937, observes with some surprise that aviation in the Spanish war was employed primarily against hostile ground troops, rather than against enemy aircraft, as had been the usual practice in the first World War. He considered General Kindelan's use of bombers "an extension of artillery," and noted the use of power dives in bombing. Military objectives in Valencia, Cartagena harbor and Almeria were among the earliest targets of the dive bombers. The French General commented that the "lone eagle" type of air ace of 1918 had given way to the ordered flight of squadrons. All of these tactics, unorthodox in 1937, have become decisive in 1940.

There is a striking similarity between the East front campaign in Spain in 1938 and reduction of the Low Countries in 1940. In both cases the attacker was confronted by a powerful system of fortifications, behind which were troops exceeding his effectives in number, but not as well armed. It is not pretended that the Red Spanish fortifications from the Pyrenees foothills to Teruel were the equal of the Maginot Line, but they may be fairly considered its equivalent, given the equipment of the forces engaged. Built of concrete and steel at a cost of many millions of dollars by engineer officers lent by the French and Soviet High Commands, heavily armed and garrisoned, the Aragon Line exceeded in strength any fortification ever constructed in continental Spain. The hinge of the 1940 defense system was at Sedan-Longwy, further defended by the Ardennes Forest; the hinge of the Red Spanish line was at Teruel, in extremely rugged terrain, where the Red line turned west, less heavily fortified. The battle of Teruel was the prelude to the smashing of the hinge; when the front broke, Franco's motorized divisions and horse cavalry divisions rushed irresistibly through the breach, cutting through the Red rear to reach the Mediterranean at Tortosa. Teruel-Tortisa was Sedan-Abbeville; Catalonia was cut off, with the bulk of the best Red troops, from the rest of Communist Spain. The vital military decision had been obtained; the reduction of Catalonia was as inevitable a prelude to the end of the Spanish war as the conquest of the Low Countries was to the capture of France. Of the 1,500,000 German troops engaged in the campaigns of May-June, 1940, less than ten per cent comprised the armored divisions which broke the Maginot Line extension at Sedan and forged the steel corridor to Abbeville. On the Aragon Front in 1938, ten per cent of the forty Nationalist divisions were the spearhead which cut Red Spain in two.[1]

In Spain the issue was clearly drawn between the ex-

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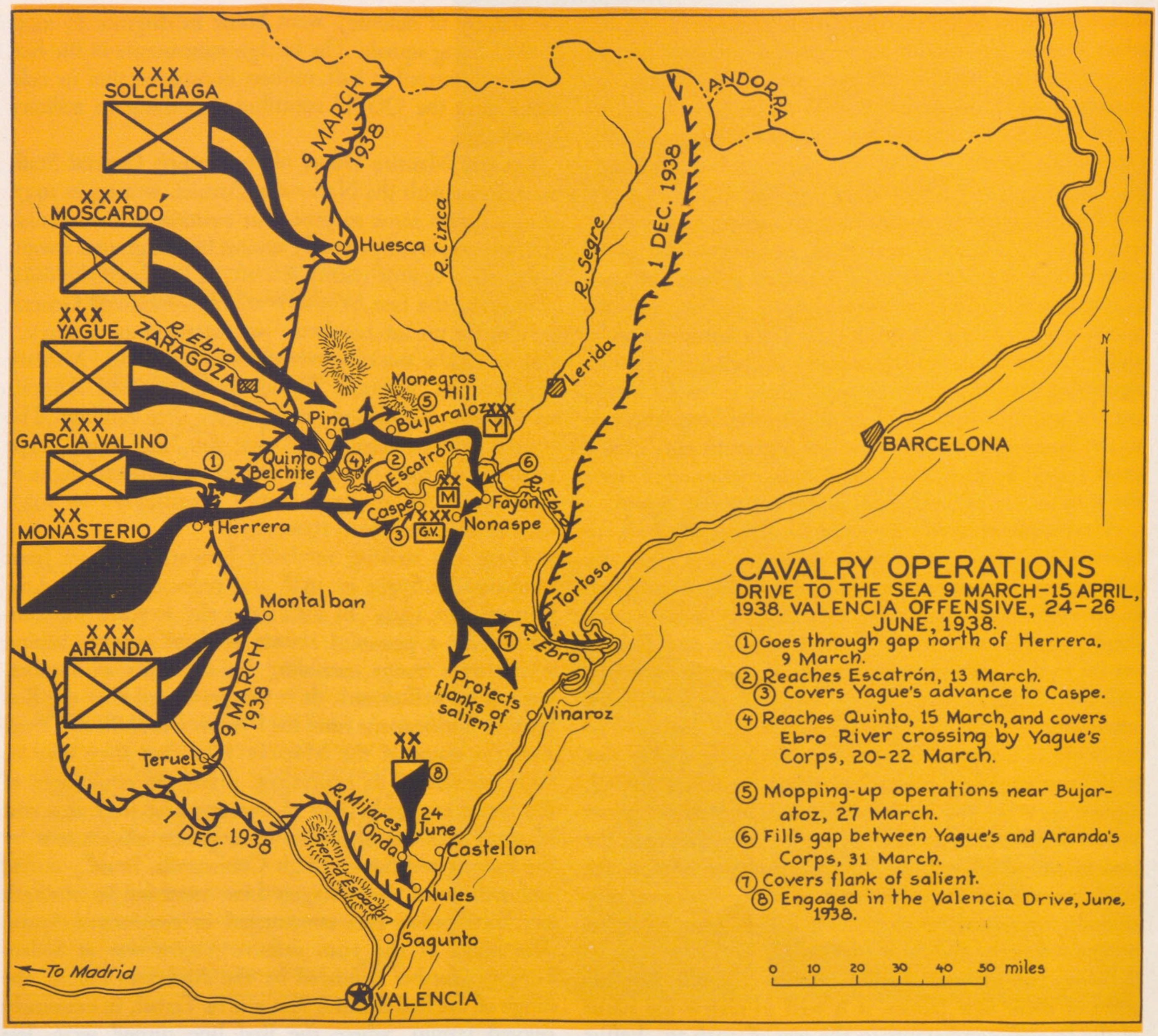
[1] Details of these operations will be found in war-time issues of *Spain*.


XXX
SOLCHAGA
XXX
MOSCARDÓ
XXX
YAGUE
XXX
GARCIA VALINO
XX
MONASTERIO
XXX
ARANDA
9 MARCH 1938
9 MARCH 1938
1 DEC. 1938
1 DEC. 1938
ANDORRA
Huesca
R. Cinca
R. Segre
Lerida
R. Ebro
ZARAGOZA
Monegros Hill
⑤
Pina
Bujaraloz
XXX
Y
①
Quinto
Belchite
④
②
Escatrón
⑥
XX
M
Caspe
③
XXX
G.V.
Fayón
Nonaspe
R. Ebro
Herrera
Montalban
Tortosa
⑦
R. Ebro
Protects flanks of salient
Vinaroz
BARCELONA
N
XX
M
⑧
24 June
Teruel
R. Mijares
Onda
Castellon
Sierra Espadan
Nules
Sagunto
To Madrid
VALENCIA
0 10 20 30 40 50 miles

CAVALRY OPERATIONS
DRIVE TO THE SEA 9 MARCH–15 APRIL, 1938. VALENCIA OFFENSIVE, 24–26 JUNE, 1938.

① Goes through gap north of Herrera, 9 March.
② Reaches Escatrón, 13 March.
③ Covers Yague's advance to Caspe.
④ Reaches Quinto, 15 March, and covers Ebro River crossing by Yague's Corps, 20-22 March.
⑤ Mopping-up operations near Bujaraloz, 27 March.
⑥ Fills gap between Yague's and Aranda's Corps, 31 March.
⑦ Covers flank of salient.
⑧ Engaged in the Valencia Drive, June, 1938.

ponents of offense and defense. The Nationalists, with the smaller but better trained forces, were continually on the offensive; the Reds, following the advice of their foreign advisers, put their trust in massive fortified lines, behind which their conscripts and alien mercenaries awaited attack. Against these lines, Generalissimo Franco employed a system of multiple break-throughs, each local success being developed by "fanning-out" and joined to that on its flank to envelop a hostile fortified position. In this manner the Red lines were engulfed piecemeal, without frontal attacks save as feints to hold the garrisons in position. The much-advertised "Iron Ring" of Bilbao was taken by the exploitation of a minor break-through, whence a fan movement turned the entire line.

The operation of Santander has been described as a classic by such experts as General Duval. In brief, the Red forces holding Santander formed a huge horseshoe, the open end on the north on the Bay of Biscay, which was immune from attack. Across the southern end of the Red line ran the line of the Europa Mountains, cut by two passes, one at either end, whence roads led north to the capital and the coast. Much of the Red army was concentrated in the pocket south of the mountains. The reduction of Santander was true "lightning war" in execution and tempo. Before the Reds were hardly aware of the Nationalist approach, mechanized columns had cut across the pocket from the Puerto del Escudo to Reinosa, sealing the two passes, bottling up the Red troops in the south end of the sack, and capturing the principal Red munitions works. Swarming northward on the arterial highways, the Nationalist armored divisions cut the defending army off from its allies to the west, captured the capital and received the surrender of the Red commander in eleven days. Similarly expeditious was the conquest of Catalonia, conducted by six Army corps, operating in parallel, in the winter of 1938-39.

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War Experiences of Tank Commanders

FOREWORD: *Soldiers of the American Armored Corps obviously lack battle experiences by means of which a sprinkling of veterans can season a new unit. In September of 1939 the personnel of German armored units similarly were ignorant of the realities of combat. But by May of 1940 those who had been in Poland had given intensive instruction to the newer cadres, so that all were acquainted, even if only vicariously, with what they might expect to encounter when they rode to war in the Low Countries.*

The following personal-experience monographs therefore, should be of immediate interest to those assigned to tank units. They also furnish a few lessons to cavalrymen. May we suggest some?

The tank can win a position but cannot hold it indefinitely without support.

The most vulnerable part of a tank is its running gear.

A concentration of indirect fire is apt to be ineffective in stopping a determined tank attack.

Crews of armored vehicles should be equipped and trained for emergency repairs and pioneer work.

Antitank defense will be helped by advanced OP's which, well concealed, remain in action even after overrun by tanks.

The man who turns and runs will not escape the tank.

Doubtless the reader will discover additional lessons.

Fighting in Front of Petrikau

By PRIVATE SCHULTZE*

SOMEONE wakes me by shaking my shoulder. Morning has come again, too soon. I take a swallow from my flask and feel in good form. When I open the flaps, I see that it is still dark outside. We are still in the field of Maize just behind Laski Bridge, over which we had seized a bridgehead last evening. Left and right on the horizon, houses and villages are blazing like beacons.

"No. 1 party to the Commander's tank!" The company commander gives out his order for the day: "Our company will lead. Be prepared for contact with the enemy from the outset. Mount! Start up!"

Immediately after comes the caution, by now well known, "Clear for action!" Turrets and flaps are closed down everywhere. Guns are directed toward the enemy and from now on we are again just a crew of five men, dependent entirely upon ourselves, bound with the crews of other tanks only by radio-telephone.

The company surges forward in line, at antiaircraft intervals, along the road. The inhabitants of the next village, terrified at our appearance, bolt out of their houses just as they are and take refuge in the surrounding woods. Now we reach the river bed, or rather, a stream. The bridge is blown.

"Headquarters to the left, No. 1 section to the right. Hunt for a crossing," comes the company commander's calm order. In a short time Headquarters has found a crossing and we move forward again.

We were coming out of another village and the road curved around one single country house lying by itself. We had just passed this country house and were again on a straight stretch with the next village rising in front of us when the first shells of the Polish defenders scream towards us, and then all hell breaks loose. Bujny, a suburb of Petrikau, seems to be strongly occupied; we had not yet met such stiff resistance. Before us, behind us, and beside us fall shells of all calibers, but the company commander's order comes over clear and calm. "No. 1 section to the right, No. 2 and No. 3 sections down the road. Headquarters will follow the company commander on the road. Open fire with all weapons."

* * *

We soon picked up the enemy, who had tucked himself, well camouflaged, into the edge of the town; and then limbs of men and animals flying into the air showed only too well how accurately our shells were falling. From then on there was no more peace inside the tank. Each man cramped himself behind his telescope or his slit to help observe and to find the targets.

"Left of the road going into town; muzzle flashes," the crew commander calls to his gunner. "There, ahead, man, just there by the lone tree, they are running like rabbits," shouts the driver from down below, and then the radio operator and the loader, too, spied something. The poor gunner has to traverse as fast as he can to compete with the number of targets.

Those Polish gunners are not shooting so badly! We can see clearly how they bring fire to bear at once on any stationary tank. The whole time we have to keep moving about. We discovered later why the observation was so accurate. The Polish OP was in the country house, on either side of which we had deployed. Luckily, one of our tanks went for this house and dealt with them.

The company received the order "Hold the line reached until the riflemen arrive," and so we cruise about as best

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*From *Die Panzertruppe*.

we can for four long hours, under enemy fire, waiting for the arrival of the riflemen. One tank after another stops, runs on to a mine, slips its track, etc. Two tanks to the left of the road give no answer to radio calls. Finally the section commander signals, "Both tanks hit. Crews apparently wounded or dead."

It is gradually becoming unpleasant inside the tank. The air is bad from the continuous firing. The transmission under me is so hot that I can hardly bear to touch it. One's limbs gradually get stiff from sitting so long. From time to time one shell after another falls beside us. One machine gun burst after another rattles on the tank. A 10.5-cm. shell bursts just behind our tank. The splinters smash our exhaust and set off our smoke candles. From a distance it must seem as if our tank is on fire. The Poles must be pleased with this. Our ammunition is running short. I myself am already shooting with my machine pistol to economize on machine gun ammunition.

Finally, about 2 o'clock, we saw our riflemen coming up in front of us. High time, too! The greater part of our tanks had been stopped. We were lucky in that our jumbo was still running. Our section commander beside us had been stopped, but his turret was still turning and his machine gun fire was still knocking out Poles. He saw some more well-hidden in their armored fire pits but could not take them on with his machine gun, so he directed another tank at them by radio, which crushed them beneath its tracks.

We drive up beside our section commander's tank to take on his fire-task while we see if we can get his tank going again. We dismount and examine the damage. A number of track links have been torn away and it will take some time before we can get him running again. Shells are still roaring overhead to our rear, but yet they are falling farther back. Suddenly a burst of infantry fire hisses past us and we look around with revolvers and machine pistols in hand, we find we have to deal with forty Poles tucked away in their armored pits all around us, before we can start on the job. Now we can examine the tank properly. He must have had the devil's own luck. Among many other shot-marks, he showed three direct hits from a 3.7 gun and several from antitank rifles; but German steel holds!

The riflemen now coming up lent a ready hand so that, undisturbed, we could tow on tracks and tow the tank to get it away. Then what was left of the proud Eighth rallied in the country house of Bujny. The casualties of this day were two dead and one seriously wounded, who, however, got over his wounds.

British Tank Actions

Four heavy, six medium and four light British tanks were ordered to prevent the Germans seizing the high ground at Souchez, Pas de Calais. We took up our position on the crest of the ridge, we got better observation from there, and we were no more visible than we would have been elsewhere, owing to the complete lack of cover.

We were shelled by German field guns at about two or three thousand yards' range, but no one was hit.

Then we saw three medium German tanks, accompanied by infantry, debouching from a wood at about one thousand yards' range. We opened fire, and I saw the three tanks hit immediately by two-pounder shells. With a tracer shell it is always possible to see a direct hit.

The three German tanks remained stationary for the rest of the battle: they tried to put out smoke and cover themselves, but this was ineffectual. The German infantry continued to come on, and the fight continued for about one hour.

We fired on them with our machine guns, and they never got closer than 500 yards. I think that we succeeded in accounting for the lot. I did not see a single man get away.

Later on that evening the Germans got round our flanks, and we were ordered to retire. Just as we were moving off we were attacked by German tanks coming up the slope. I knocked out two light tanks with my two-pounder. I saw these tanks three hours afterwards, and they were still burning.

The officer, who also described an encounter near Souchez, said that three of our heavy tanks received orders to find out whether the Germans were occupying a certain village.

The three British tanks advanced, he went on. I was in a light tank and followed on behind. As it was nearing the village the leading British tank was fired on by four antitank guns sited in a ditch by the side of the road. The British tank was repeatedly hit, but the shells did not penetrate.

With the assistance of the tank next in line the four antitank guns were knocked out and destroyed. As I passed later I saw that direct hits had been obtained on them. The crews were machined-gunned and not a man escaped.

Meanwhile the third tank had continued to advance while the two other tanks were dealing with the antitank guns. On reaching the outskirts of the village it met a German motorcyclist company coming down the road in a column. The British tank opened fire with its machine gun.

I was behind and saw what occurred. At least 50 per cent of the company were knocked out, and the remainder cleared off by a side road, or took shelter in the houses. The other two tanks had now come up, and the three advanced together up the main street of the village.

They met ten or twelve German light tanks coming down the street. Both sides opened fire simultaneously. Several of the German light tanks were destroyed and left on the road. The remainder turned tail.

The British tanks, which had sustained no casualties throughout the action, now advanced to the farther outskirts of the village. No enemy being in sight and their mission accomplished, the tanks then withdrew.

* * *

The Right Way

The Germans, said one of the (British) officers, led their attacks with a vanguard of dive-bombers, which were followed by tanks. These in their turn were followed by infantry in lorries dragging what he called "nasty little trench mortars."

"If you duck when an aeroplane dives down with machine-guns spitting at your head," he said, "by the time you have raised your head there are tanks on top of you, and just behind them come the infantry."

(Infantry bang up on the tails of the tanks.)

And the Wrong Way

The (British) division planned to attack the Abbeville bridgehead in conjunction with French tanks the day after they took up positions.

This attack was launched at 3:30 AM. The Germans, preparing for their own attack on the following day, had brought up masses of men, machine guns, artillery, and armored motorcycle formations. French tanks rumbled ahead into the enemy lines, but the German infantry laid low in the dim light until they had passed right through, in accordance with their antitank training. The Scots battalions followed them confidently and were suddenly met with a murderous fire, while the French tanks were attacked by antitank guns in the German rear.

(Tanks and infantry too far apart, destroyed separately.)

—From *The Tank* (London), July, 1940.

Another Tank Episode

By LIEUTENANT RUDOLPH BEHR*

"Our infantry have been stopped by strong defensive fire from the Poles. Our company's task is to carry the infantry attack forward to capture hills 190 and 188 and to reach hill 202 on the first objective. Strong antitank defense is to be expected. Two minutes to put your crews into the picture, then mount, start up, ready for action!"

We section commanders saluted and ran from the company commander back to our sections. The heavy tanks were in clumps of bushes roughly the height of a man, camouflaged against aerial or ground observation. The dull grey, thick barrels of their guns are pointed reassuringly toward the enemy. The crews, in their smart and practical black uniforms, with the death's head on the collar, once more checked the maintenance of their vehicles, filled-up and took aboard more shells.

At this time the crews were lying down under the bushes fast asleep. Sleep, on these occasions, is a duty. Every free minute must be utilized to build up the endurance and nerves of the men's bodies, which are under a perpetual strain. I called out: "No. 1 Section: Half circle." They all sprang up and gathered round me in the shade of a tree. I gave the situation briefly and added a few necessary orders on particular measures concerning the nature of the terrain and of the formation, and then let them go to their tanks. In the next minute engines were roaring left and right, and farther in rear was the higher-toned noise of the smaller tanks. The Tank Brigade was moving forward to the attack.

The sections pulled out onto the road. The company moved forward in line ahead. First, we had to go through a village. Just ahead of us was the noise of battle. Single shots, machine-gun fire, and heavier shell bursts. The heads of the tank commanders were seen looking out of their turrets to get their bearings and take one more look at the ground. Howitzer batteries were in position on both sides of the road, and were firing towards the scene of action. Then I heard a crackling in my earphones. The company commander wirelessed the order, "Clear for action!" All heads bob down at once in the tanks. Turret tops and flaps were closed. The tanks were ready to speak their piece.

We got through the village. The company swung left from the road into the fields, forded a brook and deployed. The tanks moved forward against the enemy in a broad and loose formation.

Looking through the narrow slit of my commander's turret, I could see the tanks of my section moving forward to the right and left; and tensely I watched the ground in front of us. No movement is seen on the enemy's side and all seems dead, and yet there must be enemy there, in behind the hummocks and in the hovels between the groups of trees. I, and all my crew listening hard, hear a sudden sharp metallic ringing blow that shakes the whole tank. A direct hit from an antitank gun, apparently in the track.

The other tanks are moving swiftly forward. They have recognized the antitank gun and are attacking it. Thus we were, for the moment, secure from this gun; so out-of the tank. One man stays at the machine gun for protection, and the others change the damaged truck plate. It was soon fixed. We were well away with that. Luck is a good thing to have, especially in war. Six inches farther to the left, and this attack would probably have been our last, but there was no time for such reflections. In a few minutes the damage was made good, and in a short time at top speed we had caught up with the leading tanks again. So far in this fight we had not fired a shot,

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*From *Die Panzertruppe*.

German light tanks of the seven-ton model advancing in Poland.

nor had we seen any worthy target, and now, 500 yards in front of us, we can see moving brown figures, Polish infantry. They would not stand up to the concentrated power of a tank attack, and were running away in masses. That was a tid-bit for us. I yelled to my gun layer the direction and range; to the loader, the type of shell, and told the driver through the internal radio, "Straight ahead, top speed, at the enemy." I ordered my section by radio, "Half left in front; lone tree; enemy infantry; destroy."

Now the tanks are speaking. The first few shells opening the storm fall in the thickly packed groups. I observe the effect. It was marvelous. Over yonder on the edge of the wood some are seeking cover. We catch them with the fire of our machine guns. They are finished. A small detachment disappears into a house, from the roof and windows of which a fierce fire soon falls upon us. One HE shell in the roof and another in front of the house jolts the survivors. The civilian inhabitants of the house were among them. I cannot help it. *This is War.*

Several fountains of earth are now rising high among our tanks. The Polish artillery wishes to show us that they are still there. Let them shoot! We are shooting, too, and we are scoring hits! A machine-gun nest, defending itself fiercely, is dealt with by a shell and becomes silent. All around us is machine-gun fire, shell bursts, machine guns and, again, shells.

The loader is sweating. He can hardly bring the shells out of the racks as quickly as the gunner fires them. Powder smoke is pouring out of the gun's breach and colors our sweat-covered faces black. Our shirts stick to our backs. The roar of our motors, the banging of our guns, the heat, the fumes, and the natural excitement of the fight together with joy at the visible German victory, all these things together bring an atmosphere that only a tankman knows, to which he becomes accustomed, and which he likes. Add to this the semi-darkness of the tank turret, the lighting-up of colored bulbs, my method of communicating with the radio operator, who the whole time is receiving or sending orders and messages between the company, myself, and the tanks of my section.

Meanwhile the gallant driver of our heavy vehicle rocks it forward without mistake across country. He can only see the furrows, the meadows, the ditches, the manifold obstacles in front of him, through a very small field of vision. They appear before him suddenly and force him to quick decisions. He bears the heavy responsibility for everything to do with the technical efficiency of the tank. The heat is worst where he is. He must steer the heavy tank. He must change gears quickly and often. He must keep his dials perpetually in sight and with my help he has to seek and find a way across country, in order to give the gunner the best opportunities for fire. He has also to help me to pick up targets. The driver is always wide-awake, always "on the line." He drives in battle, he drives on the march, by day and by night. On the march the whole crew goes to sleep in the turret.

Only the crew commander stands up in the turret and the driver drives. With tank crews, it thus becomes an indivisible comradeship of battle; and faultless coöperation make effective tank fighting possible, since every man of the crew must look after the equipment entrusted to him thoroughly and entirely, and must carry out the duties he has learned during a time of hard training. But the principal responsibility, if not always the immediate responsibility for our success rests on the driver.

Later on we reach midday. The hours seem to fly by, with the unholy noise, rough and tumble, and shooting. It was a great pity that a stretch of broad stream held up our tireless tanks and compelled them, unwillingly, to rest until the pioneers had found crossings or fords.

At the end of the day's bloody work, the next task was to hold the conquered ground until our infantry could relieve us to withdraw behind their protection. The infantry had not been able to keep up with the rate of advance of the tank attack. In a short time, parts of the battalion were harbored in camouflaged positions, with a good field of fire toward the enemy, while the bulk of the tanks lay farther back resting. Now, for the first time, we could open our flaps and covers, and the crews could creep out.

The enemy has been thrown back or destroyed, and instead of a beautiful picture of villages and farms about the countryside, which had afforded strong points for Polish soldiers or lurking places for guerrillas, we see all around us only naked chimneys, stuck up from the smoking ruins of broken beams, silent witnesses to culpable Polish madness.

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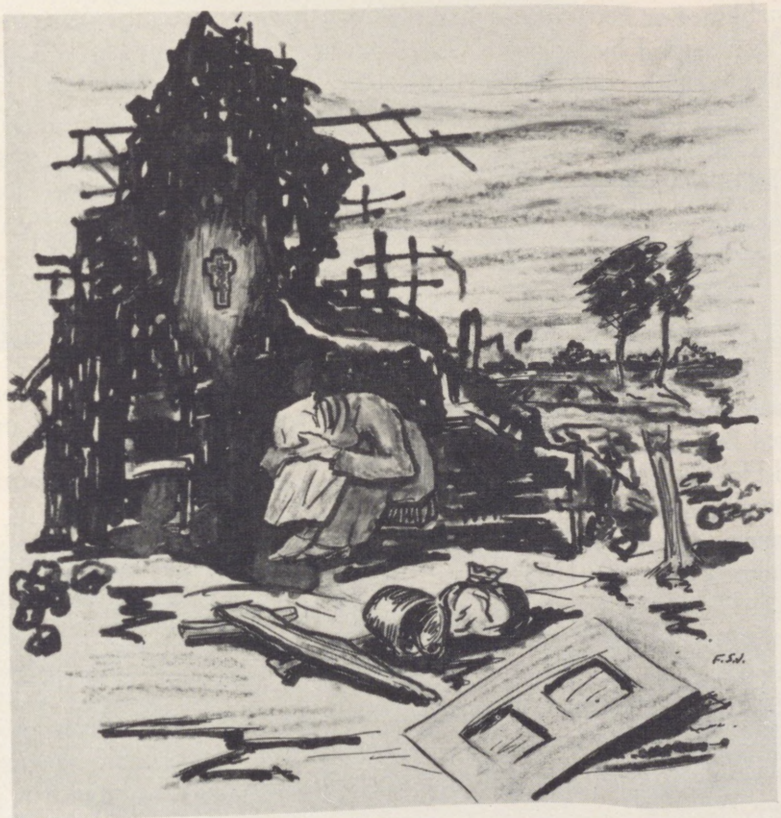

THE U. S. ARMORED FORCE

The Possibilities of Its Strategical and Tactical Employment

By Lieutenant Colonel Percy G. Black, G.S.C.*

ON JULY 10, 1940, the War Department issued an immediate action letter directive creating the Armored Force and assigning Brigadier General (now Major General) Adna R. Chaffee as Chief of the Armored Force and Commanding General of the I Armored Corps. Thus, for the first time, all armored activities of the Army are consolidated for organization, supply and administration under the control of a single commander.

Initially, the Armored Force is to consist of the I Armored Corps of two armored divisions and one GHQ Tank Battalion. This represents the Force for which major items of equipment are ready or will be ready by September 1st. It is expected that additional divisions and battalions will soon be formed.

Headquarters for the Force and the I Armored Corps were established at Fort Knox, the Corps Staff functioning initially in a dual capacity for both the Force and the Corps. Headquarters of the 1st Armored Division, commanded by Brigadier General (now Major General) Bruce Magruder, was established at Fort Knox and the 2nd Armored Division, commanded by Brigadier General (now Major General) Charles L. Scott, at Fort Benning.

Upon completion of its initial organization the Armored Force will consist of the following units:

a. I Armored Corps
  (1) Hq. and Hq. Co., I Armored Corps, Fort Knox, Ky.
  (2) (*a*) 1st Armored Division, Fort Knox, Ky.
      Hq. and Hq. Co., 1st Armored Division
      1st Reconnaissance Battalion (Armored)
      1st Armored Brigade
        Hq. and Hq. Co., 1st Armored Brigade
        1st Armored Regiment (L)
        13th Armored Regiment (L)
        69th Armored Regiment (M)
      68th Field Artillery (Armored)
      16th Engineer Battalion (Armored)
      6th Infantry (Armored)
      27th Field Artillery Battalion (Armored)
      47th Signal Company (Armored)
      19th Ordnance Company (M. Maint) (Armored)
      13th Quartermaster Battalion (Armored)
      47th Medical Battalion (Armored)
    (*b*) 2nd Armored Division, Fort Benning, Ga.:
      Hq. and Hq. Co., 2nd Armored Division
      2nd Reconnaissance Battalion (Armored)
        Hq. and Hq. Co., 2nd Armored Brigade
        66th Armored Regiment (L)
        68th Armored Regiment (L)
        67th Armored Regiment (M)
      14th Field Artillery (Armored)
      17th Engineer Battalion (Armored)
      41st Infantry (Armored)
      78th Field Artillery Battalion (Armored)
      48th Signal Company (Armored)
      17th Ordnance Company (Armored)
      14th Quartermaster Battalion (Armored)
      48th Medical Battalion (Armored)
b. GHQ Reserve Tank Battalion
  70th Tank Battalion (M) Fort George G. Meade, Maryland

All units are equipped with all major items of equipment except medium tanks and 105-mm. howitzers. However, this is not a serious shortage as there is modern substitutive equipment to fill this shortage.

To facilitate the organization, training, and equipment of the Force, all units are directly under the control of the Chief of the Armored Force and are exempted from Corps Area control except for routine supply.

Thus we have for the first time in our army a highly mobile armored force possessing tremendous fire power under the direct control of one commander.

In view of the successful employment of large armored units by Germany in the recent war, it might be interesting to review briefly the historical development of armored troops in the European armies.

French Doctrine

The development of tanks in France proceeded as a natural evolution of World War experience. Based primarily on the theory upon which the French army had developed—that France would fight in a primary theatre of operations in northern France or Belgium where the flanks would be secure and where offensive operations would be carried out against an enemy in position on a narrow front—the French logically conceived that the principal use of tanks would be to penetrate an enemy position with a limited objective. Thus initial Franch tank development, proceeding along these lines, produced heavily armored, lightly armed, slow moving, Infantry tanks. These heavy tanks were organized as tank battalions and it was never contemplated that large mechanized bodies of troops would be employed together on any one front.

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*Assistant Chief of Staff, G-2, Headquarters: Armored Force, Fort Knox, Kentucky.

Tanks

Half-track car towing 75-mm. howitzer

105-mm. howitzer, and $2\frac{1}{2}$-ton truck

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Later, the French developed the D.L.M. *Division Legere Mechanique,* as a striking force of a cavalry corps. This cavalry corps was designed to exploit a break-through of the enemy's position by the Infantry attack. At the time when an enemy would be forced to displace his artillery, the cavalry corps would be launched in attack, its striking force, the D.L.M. Again, however, the French visualized the use of this cavalry corps to a limited objective where the advance would again be taken up by the Infantry.

It was not until February of 1940 that the French commenced the organization of their armored divisions. Even in this organization they clung to the tactical principle that tanks were a break-through weapon and that the Infantry would merely occupy ground taken by the tanks.

By May of 1940 the French had organized three D.L.M. Divisions and three mechanized divisions.

Although some thought had been given to grouping these mechanized divisions under a single command, they were never so used. In the Battle of Flanders the 2nd and 1st D.L.M. were destroyed piecemeal, while at the Battle of Sedan and the Battle of the Meuse the newly formed French mechanized divisions used singly were no match for the German attack. In one battalion of the 1st Mechanized Division which entered the action at Sedan with 33 tanks, the B-Bis, 33 ton heavy tank, only six returned.

British tank development followed closely the French doctrine. The British Expeditionary Force was designed to reinforce the French Army, and British organization therefore fell in basically with the French conception.

British Doctrine

Originally the British had converted a large number of their horse cavalry regiments to light reconnaissance units, and had organized heavy Infantry accompanying tank battalions.

In April, 1939, for the first time, British mechanized units were formed under a single head as a mechanized force and not until the early spring of 1940 did the British organize their armored divisions.

Like the French, the British developed heavily armored and lightly armed tanks, and like the French they conceived of the tank as a break-through weapon to be followed by the Infantry.

In the operations in Flanders and Belgium the British had one armored division and one army tank brigade. The army tank brigade in an uncoördinated and abortive attempt at offensive operations south of Arras was practically wiped out of existence, losing 22 of their newest and heaviest Mark II tanks.

The Armored Division was employed around Dunkirque to stem the tide of the German advance and to cover the retreat of the British forces.

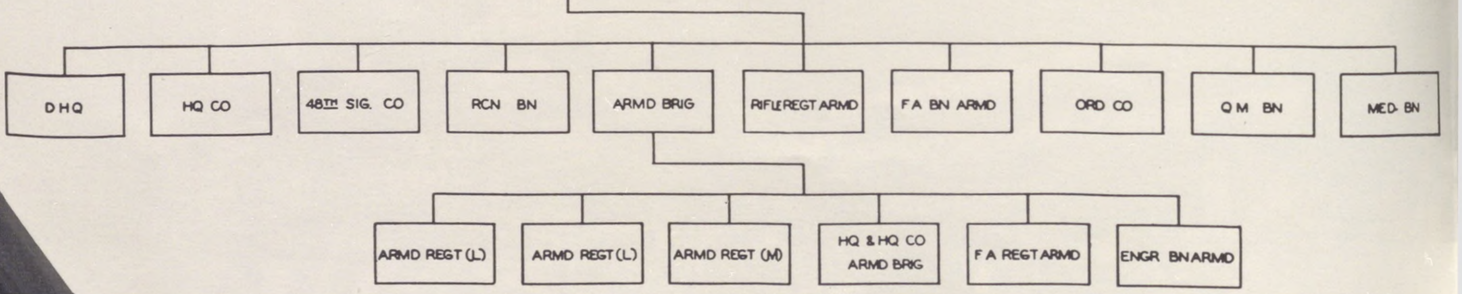
In neither the French nor the British armies were tanks employed *en masse,* and German accounts picture French and British armored units being destroyed piecemeal and unable to cope with the masses of the German mechanized forces.

German Doctrine

Under the Treaty of Versailles, Germany was denied tanks. It was not until Hitler broke this treaty and created the new German army that tank units were formed. The German army therefore escaped the preliminary stages of development from the World War tank and was able to create a mechanized force on a new principle to which the nearest approach was that of our own mechanized cavalry.

The German army was organized and equipped for mobile warfare in the East, in warfare where there would be no flanks and where maneuver space would always be available. Under this basic conception the Germans immediately set about the creation of large armored units primarily designed to operate on exposed flanks or to exploit the success of their Infantry forces in the pursuit. Under the German conception the tank was not a break-

Schematic Diagram of First U. S. Armored Force.



through weapon but an exploitation weapon acting always in conjunction with the Infantry assault rather than leading it. The Germans therefore developed a lightly armored and more heavily armed tank than either the French or the British.

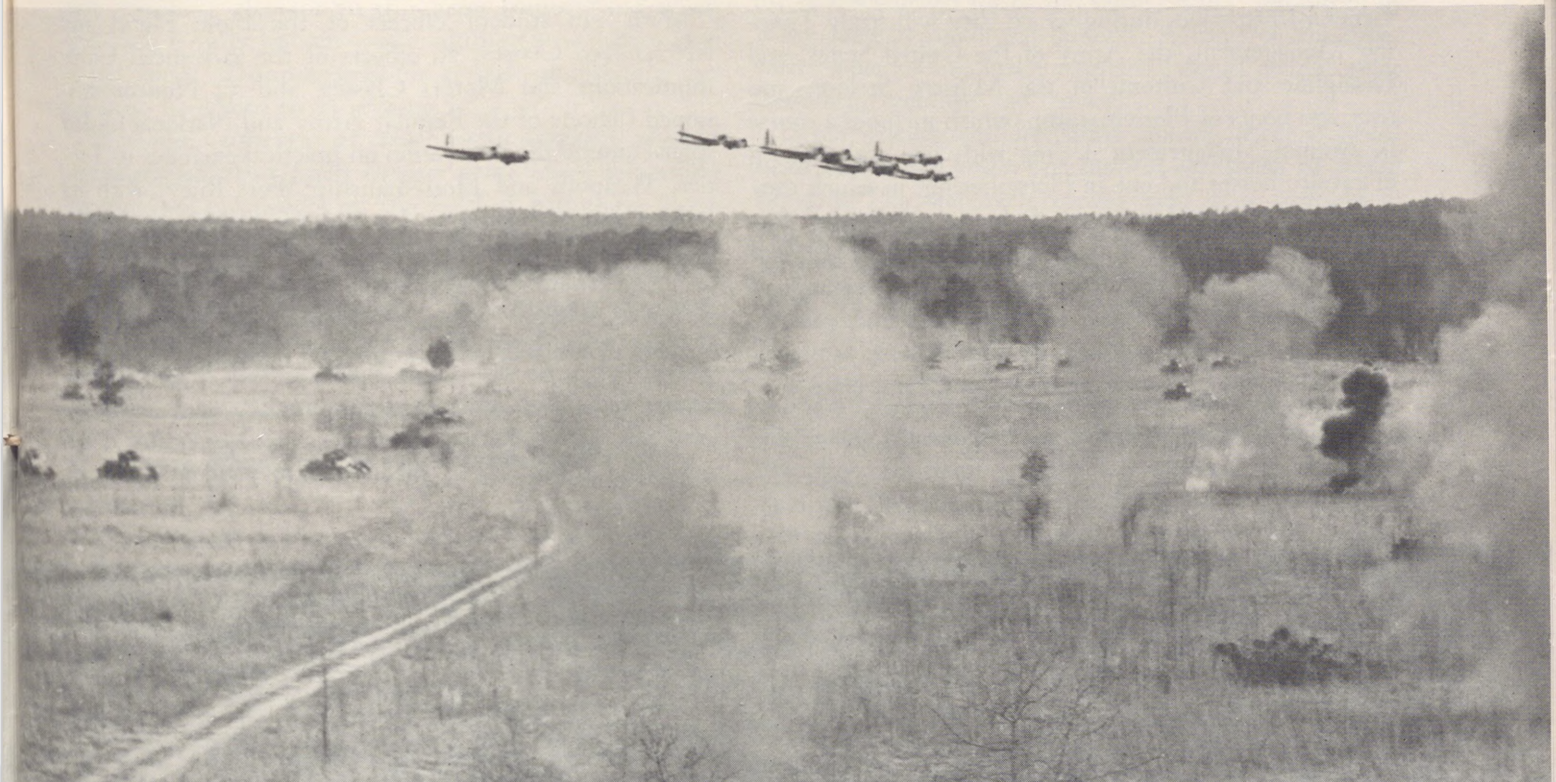
In the German mechanized division the tank brigade works hand-in-hand with the Infantry brigade. The Infantry develop the enemy situation and prepare the way for the tank attack which is launched on a broad front with masses of tanks as the main effort of a coördinated attack.

In pursuit the German mechanized infantry are broken up into small groups of a company reinforced by a platoon of tanks, engineers, and armored cars, who operate to widen the zone of penetration and to exert continual pressure on the enemy.

In the attack on France, the German mechanized forces were initially held in reserve, moving up into the Forest of Ardennes as the German advance pushed back the French defense. With the collapse of Courap's Ninth Army, a gap was created in the line between the French and British forces in Belgium and the French army at Sedan. Through this gap 10 to 12 German mechanized divisions were thrust to take up the pursuit and to prevent a junction of the armies in France with those in Belgium. The success of this exploitation, however, rested primarily upon the continued pressure by the German armies on the right and left, composed entirely of horse-drawn infantry divisions. It was this pressure which prevented the French and British from detaching reserves to counter the German mechanized thrust.

Our Employment

The idea of creating a mechanized force in the United States has followed lessons of the war in Europe. With the expansion of our army, a striking force of such power has become a necessity. It is still young in organization and doctrine and is rapidly growing into the most formidable fighting machine of its size the American Army has ever known. How it will be employed in battle or in what theater of operation, is still a matter for the future to determine. But when and where it is employed, its striking power and mobility should be the primary characteristics governing its usage.



Armored force attack

The Cavalry School

FORTY students attending the Second Refresher Course for Reserve Officers graduated from the School on September 13, 1940, and departed for their stations with cavalry regiments throughout the United States. This group of officers, chiefly graduates of Senior Cavalry ROTC Units, did splendid work during their short course and are entering their service with the regiments full of enthusiasm for the Cavalry.

Eighty, First and Second Lieutenants of the Cavalry Reserve reported at Fort Riley between September 6th and 15th to pursue a three-months' course of instruction in the Basic Horse and Mechanized Course for Junior Cavalry Officers. These officers reported from all Corps Areas and represent all Cavalry regiments except regiments of the Armored Force. Their records show that the majority of them are graduates of Senior Cavalry ROTC Units within the last five years. They have come from one to three months of duty with regular Cavalry regiments and appear to be well prepared to undertake the strenuous three-months' course. The course they will pursue includes over 200 hours of Tactics, chiefly practical exercises in the leading of small cavalry units; 115 hours of Weapons, during which they will study the technique of all weapons used in the Cavalry service; 25 hours of General Instruction, during which they will study Training Management, the Army of the United States, and Discipline and Customs of the Military Service; and over 200 hours of Horsemanship, which includes a course in Animal Management dealing with care and training of cavalry horses and one in Horseshoeing, in which they will cover the need for care of the cavalry horses' feet and modern methods of shoeing. In addition to Animal Management and Horseshoeing, this class will spend many hours in the saddle learning gaits and gaiting, marching methods, and how to ride a horse across all types of terrain including obstacles small and large.

Brigadier General Robert C. Richardson, Jr.,* the Commandant, addressed the students on "Our Profession and Customs of our Service." His stirring appeal made a deep impression upon these young officers and will give them food for thought in their coming years of service.

Ninety remounts were received from Fort Reno, Oklahoma; Fort Robinson, Nebraska; and Front Royal, Virginia between August 15th and 25th, 1940. These young horses appeared to be in splendid condition and amply illustrate the splendid results being achieved by the Remount Service in its breeding methods.

It has been interesting to hear the present instructors who have just returned to the Cavalry School after some years of absence comment on the general improvement they have noted in the type of horse at the Cavalry School. This difference is not so noticeable to those who are on duty with the School from year to year, but a short absence brings sharply to the Cavalry Officers' attention the improvements that have been made by the Remount Service in producing mounts for the cavalry service.

The Academic Division is happily located in the new Academic Building with its modern conveniences and new furniture, all of which enhances the environment and raises the general tone of Cavalry School instruction.

With 120 student officers of the Basic Horse and Mechanized Classes, 20 officers of the Advanced Communications and Motors Classes, and 35 Noncommissioned Officers of the Regular Army and National Guard spread around the reservation on practical exercises in Tactics, Weapons and Horsemanship; Fort Riley, with its rolling hills and canyons, has become a beehive of military activity. The chief problem confronting the instructor is one of avoiding another class, in carrying out exercises on the reservation the area of which already seems limited in view of the increased number of students.

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*Since promoted to Major General, to command Cavalry Division.

Fort Riley, Kansas, Home of Our Cavalry School

CAVALRY TRAINING

By Colonel Harry D. Chamberlin, 2nd Cavalry

FOREWORD

IN view of the numerous articles recently appearing in our newspapers and periodicals, written by self-styled and theoretical "military experts," it seems *apropos* to express some thoughts on cavalry training which, despite inherent deficiencies, at least are based on facts and experience. While neither new nor original, these thoughts need attention at this particular time. It is believed that the final recommendations are constructive and, with the introduction of selective service, will be entirely feasible.

Incidentally, when reading current destructively critical articles, it is well for Regular Army personnel to bear in mind a sententious statement once made by a great cavalry soldier and former Chief of Staff, Major General J. Franklin Bell, to wit: "Any fool can criticize."

If our able and conscientious cavalry officers, as well as those of the other branches, permit themselves to be perturbed by the present flood of acrimonious and erroneous comment, they unnecessarily will suffer. For although the Army, like any other human institution, has its imperfections, nevertheless it serves as a noble and fine leavening element in this great country and when the truth is fully known—as it ultimately will be—few, if any items of unpreparedness or lack of foresight can honestly be placed to its account.

Moreover, ***officers of the horse cavalry should maintain abiding faith in our arm!*** Until something yet unheard-of appears on the field of battle, the horse cavalry—*properly trained*—has definite and vital functions and missions which no other arm can execute with similar speed or thoroughness. The Germans have realized these facts and even on the small and cramped battlefields of Europe, have continued to use this indispensable arm. Many contemporary critics apparently have not learned as yet that the Germans have employed *hundreds of thousands* of horses in Poland, Belgium and France.

At the Third Army maneuvers in Louisiana, the lack of thorough combat security and reconnaissance, ***which oftentimes could only have been accomplished by horse cavalry,*** was the reason why motorized, and even marching infantry columns were "blind" and consequently easily susceptible to surprise attacks. Had the two opposed corps been approximately equal in infantry strength so that the 1st Cavalry Division (attached to the weaker corps) might have been assigned independent and more typically cavalry missions, it undoubtedly could have created many surprises and great havoc for the "enemy" which usually had available only one squadron of horse cavalry.

If the reconnaissance elements recently organized for the Infantry divisions are to remain entirely without horse cavalry, it is hard to believe that they can prove of much value for close-in or combat reconnaissance. Scout cars by themselves are hopelessly road-bound, are an easy prey for a clever enemy, and if not reinforced are normally capable of rendering only rather indefinite road information.

While the importance of mechanized and armored forces is evident to all, many officers were struck by the vast amonut of terrain found in the Louisiana maneuver area of approximately twenty-four hundred square miles—an area far larger than that comprising the final phases of the Retreat to Dunkerque—over which it was utterly impractical to employ tanks. It was also obvious that almost invariably the horse cavalry could have maneuvered with ease and usually under concealment across those very areas not passable for mechanized troops. Consequently the two forces generally should be used to complement each other when terrain or other causes prevent their operating in conjunction. In the future, much thought and practice should be devoted to the combined use of mechanized forces and horse cavalry, reinforced in many cases by motorized infantry. A corps of this type, with proper air and artillery support, would present great flexibility, mobility and power.

In our spacious and diversified country, ***there is great need and much room for several divisions of horse cavalry.*** This statement applies even more strongly to vast portions of the western hemisphere occupied by our sister republics, were they some day to call for our assistance, where roads are few and terrain is most difficult.

TRAINING IN GENERAL

Since thousands of years before Christ every great military leader has taught that a high standard of individual discipline and training is the basic essential of a successful army. Napoleon's oft-quoted remark, "Man in war is everything; men are nothing," emphasizes this precept. Today, the German army once again has shown that its exceedingly rigid discipline, which is the basis of its thorough training, has developed a military team, the power and drive of which easily overwhelmed the half-disciplined, weaker-willed and physically less-strong elements interspersed among the Allied forces.

Discipline, to the minds of many, is apparently associated with brutality. Our people must be taught that this is not true. ***Military discipline is simply the habitually prompt, thorough and willing performance of every soldierly duty always in the same precise and proper manner.*** Such social discipline as is concomitant with the military is only that practiced by any person

CAVALRY TRAINING IS DIVERSIFIED

1—At top speed over rugged terrain. 2—Scout car reconnaissance. 3.—Machine-gun troop—in pack. 4—Training in horse swimming. 5—Mechanized attack. 6—M-1 rifle squad

whose good manners are founded on respect for authority and courtesy towards superiors in rank. Military discipline must be generated by intelligent and meticulous training. Soldiers soon realize that it gives their units superior combat efficiency and that this superiority brings, both to the individuals and to the unit, confidence and strength. Genuine discipline is cheerfully put forth and is evolved through good leadership. Its existence becomes a matter of greatest pride to members of an organization wherein it exists.

It must be realized however, that the perfect discipline and training which make a soldier brave and self-assured on the battlefield cannot be developed in a month or six weeks. As Major General Fox Connor recently indicated in a newspaper article, notable for its keen accuracy and fund of military facts, it may be possible to train the individual soldier quite thoroughly in one year, but in that brief time an entirely new regiment ***cannot*** be organized and thoroughly prepared for war. Due to the volume and intensity of firepower in modern warfare, individuals frequently are called upon to perform battlefield duties where they are separated by considerable distance from their comrades. Such lonely, terrifying crises put a man's courage to the supreme test. His morale can withstand these tests only when it is built on confidence in his own physical strength, on knowledge that his own and his comrades' training are perfect, and finally on that intangible something existing in his unit called *esprit de corps*. This can only become a part of each man's consciousness through long association and training.

The difficulty of perfecting the team work, conditioning and individual training of a football team in five or six months, is well known. Rarely when the season ends will a coach have convinced himself that his team has at any time reached its potential peak. How then, assuming all conditions favorable, may it be hoped to perfect in one year a far more complex team of a thousand men and horses—a team which probably will never be called upon to make the same play twice? The consummation of individual training and of the team play of a regiment as a whole requires much time, and time alone produces a background sufficiently colorful to engender that organizational *esprit* which, on the field of battle, lifts each man to his greatest heights of physical and moral courage. No officer can honorably afford to deceive his men, and least of all himself, as to the amount of time necessary to put his military team in such a state of training that he may expect to have it function successfully in war.

In absolute frankness, how many cavalry officers can state that they have seen a cavalry regiment trained to the high standards which should exist in the regular Army; the standards desirable before committing a regiment to battle? The regrettable fact that not many, if any, have seen such regiments is neither the fault of the officers nor of our splendid enlisted personnel. The cause lies in conditions existing in our service which undoubtedly have been irremediable. However, with the passing of the Selective Service Act it appears probable that most of these conditions can be either eliminated or ameliorated.

PRESENT CONDITIONS PREVENT THOROUGH TRAINING

As our present Chief of Cavalry has indicated, every officer who has been fortunate enough to serve with troops over any considerable length of time in recent years will recognize and appreciate the discouraging obstacles to training which are listed as follows:

1st: ***Receipt of recruits by posts or units in driblets, usually from one to ten in number and at constantly varying intervals of time.*** This single condition continuously prevents the commander, of even so small a unit as a troop, from having it completely trained. For a regimental commander, the situation becomes increasingly difficult.

Assuming a course of recruit instruction of eight weeks' duration as a minimum requirement, and the usual *weekly* influx of a few recruits, it is necessary to provide instructors and horses for from six to eight recruit groups, since all are at different levels of instruction. Whether instruction be conducted by post, regiment or smaller unit, this method of distributing recruits in driblets is excessively costly in overhead. Recruit instruction, certainly a tremendously important duty, calls for the most able officers and noncommissioned officers. On the other hand, these can ill be spared by the habitually under-officered troop organizations. A compromise generally results which neither gives an appropriate number of superior instructors for recruits, nor leaves a sufficient number with the troops.

Moreover, when a group of recruits graduates to duty with its troop, the members have missed all training up to that date which has been covered by the troop's annual schedule of instruction.

2d: ***The continuous detail of a great number of combat personnel on detached service or special duty.*** It is well realized that the duties performed by such absentees are, for the most part, absolutely necessary, and under present conditions no replacements for them are available. The effects are nevertheless pernicious, in that many members of combat units constantly are absent, and hence remain at best only partly trained soldiers.

In addition to enlisted personnel, frequently officers must be taken from combat units for necessary post staff positions. Schools, staff jobs, special duty and civilian component details, together with a minimum amount of close contact with, and command of troops inevitably tend toward producing highly theoretical officers. Practicality, common sense and observing eyes are three most necessary requisites of military leaders. Only by actually practicing one's profession with troops will those requisites be developed.

3d: ***Too frequent changes in officer personnel.*** This policy works a severe hardship on enlisted personnel, especially on the noncommissioned officers who barely have time to become acquainted with their commanders and to readjust themselves to the alterations in routine administration and training introduced by new officers, before others arrive. These frequent changes are most detrimental to organizational *esprit,* the value of which is often emphasized more in theory than in practice.

4th: ***Too few officers of troop grade on duty with troops.*** With the prescribed number of officers never present for duty, training suffers greatly and the complete team never practices. This deficiency probably will be remedied by the influx of young reserves for one year's troop duty, and as a result of the Selective Service Act. Most of these young men, while potentially fine material, are initially more of a liability than an asset. Regular officers must be utilized to give them courses in basic training, which incidentally, should begin with the ***actual performance*** of all duties of the soldier and noncommissioned officers. It is absurd, if not futile, for an officer to attempt teaching what he has never practiced.

In selecting men for commissions, greater importance should be attached to the physical and mental attributes which make superior leaders and fighters in actual warfare, and less to those which permit successful results in written tests. Often the latter only prove that those receiving highest marks are blessed with better memories for studied theory, rather than with the courage, endurance, quick wits and natural attributes essential in battle.

5th: ***Insufficient rank and pay for platoon sergeants.*** When men are outstanding instructors and leaders, they are the most valuable platoon sergeants. Such men are extremely difficult to find. Many of their necessary qualities and traits are innate. They are the real backbone of a unit; and the men who will win its battles. Under our system, the really superior platoon sergeant sooner or later is promoted to the second or third grade and thereupon receives a clerical position. Administration must be carried on, but fighters and leaders of great competitive ability undoubtedly are more essential to an organization which primarily is designed to make war. Recent inclusion of the staff sergeant grade in line troops is a step toward such reward.

6th: ***Training inspections of small units are not made by any War Department agency nor by Corps Area commanders.*** The War Department has no agency for this purpose, while Corps Area commanders simply have not the time to inspect the training of each unit, much less that of its individuals. Where regiments are actually in a division, the commander of that division and his brigade commanders can make these inspections; but with separate regiments this is not the case.

Post commanders change station frequently and often are officers of branches other than Cavalry. Since there are no official, well-defined standards of training, it is practically impossible at present to have uniform standards throughout the service.

Master schedules giving the number of hours per subject and the number of training cycles per year, prepared by the Chiefs of Branches and approved by the War Department, would help to standardize and improve training. In the Cavalry, this idea also applies emphatically to the training of remounts. Too much is now left to idiosyncracy of the individual in the means and methods.

SUGGESTED REMEDIES

Possible means of improving the above-mentioned conditions are recommended as follows:

1st: ***Recruit depots, or training centers, should be established where training in all basic subjects is completed and qualification courses are fired with principal arms.*** Except for mounted work, Cavalry recruits could be trained at infantry depots, since the various items of basic training in the two branches are either identical or very similar. Minor differences in technique and mounted work could then be taught after recruits have joined their regiments.

All men deficient mentally, morally or physically should rigorously be weeded-out. Physical training should be stressed. In the accomplishment of Germany's recent successes in land warfare, full credit has not as yet been given the universal physical training provided for all German youth, which was systematically begun in 1919. The youth of our country are soft. A few participate in athletics; the great majority look on. This fact has given many who think of the United States as an athletic nation a dangerous and false impression.

The time required for recruit training at the depots which should be superior, is largely a matter of the ***quality*** of instruction. Hurrying through instruction in his basic duties does not tend to make a good soldier. Regiments should spend a maximum amount of time in the field training which all so urgently need.

Cavalry training and organization should be complete in every detail ***in time of peace.*** Quickly organized units or partly trained replacements or recruits will prove costly, as their helplessness will only adulterate the organized, well trained units they join. Above all, each regiment should be furnished ***its required quota of recruits in not over two increments annually. To receive the entire quota on one known date would be ideal.*** Regimental and troop training cycles could then begin shortly after the recruits arrive. Training at the depots, including processing and target practice, probably would require from eight to ten weeks.

This rational, efficient recruit training system is normal in other armed forces of our own country and should be practicable in the Army under prevalent conditions.

2d: ***At all camps and posts, sufficient service personnel, either civilian or military, should be provided to relieve combat troops from detached service, special duty and all non-military work.*** Not only is it ruinous to training, but it lowers morale to make clerks, firemen, gardeners, janitors, messengers, recruiters, laborers, etc., of men who join the army to become soldiers. Sufficient officers for necessary post staff duty also should be provided so that troops will not suffer from lack of officer personnel.

3d: ***Officers should be left on duty with troops to which assigned for at least four years; and normally when ordered back to troops from detached service, they should be returned for service with the same regiments.*** This would greatly increase morale and assist the training of a regiment as a team. It also would steady and improve the rôles of noncommissioned officers and soldiers.

4th: ***Sufficient troop officers to fill unit quotas according to Tables of Organization should be constantly on duty with troops.*** The organization of military machines is the product of evolution, and each cog has been carefully fashioned through years of experience. It is impossible for the machine to function properly when parts are missing.

5th: ***At least three platoon sergeants should have pay and rank equal to those of staff sergeants.***

6th: ***Centralized master schedules containing the subjects and number of hours to be devoted thereto should be prepared by the Chief of Cavalry and issued after approval of the Chief of Staff.*** Schedules should leave a large amount of time to the commanders of lower echelons and be prepared (1) for units from the regiment to the troop, inclusive (2) for recruits at depots or posts (3) for remounts. Almost all European nations give their remounts two years of standardized training before they go to combat units. Ours are fortunate if they receive two months. No remount, except in an emergency, should leave the post for hard maneuvers or extended marches in less than eighteen months. Working young, unfit horses not only ruins them physically, but temperamentally as well.

Veterinarians of great experience, such as Colonels John A. McKinnon, Daniel B. Leininger, Jacob E. Behney, among others, agree with this statement. *In an emergency, of course, all available horses would have to be used and the Remount Service presumably will only purchase horses seven years of age or older during war.*

Training and tactical inspections of regiments or smaller units should be made by a War Department agency, preferably the Chief of Cavalry. He, by visits of one week or more to each regiment, could definitely determine the state of training in each, and assist greatly in bringing all up to the required standards. The Chief of Cavalry could then furnish the War Department, Division or Post commanders, and the regimental commanders concerned with a report of the conclusions resulting from his inspection. Such procedure would help raise and standardize the level of training of both men and horses in the Cavalry.

RECRUIT TRAINING

Experimentation in regiments at various posts has proven that recruits, through an intensive course of eight weeks, can be trained sufficiently to join and function with their troops, either in garrison or in the field. However, this is a *minimum* allowance of time and unless instructors, both officers and noncommissioned, are superior, the recruits will be awkward, very superficially trained, and decidedly "in the way" when working in ranks. The difference in the ***quality*** of instruction in various units is amazing. Standards in certain organizations are often far below those in others. It should be understood by all that soldiers, almost without exception, greatly admire, and desire to attain West Point standards. In the regular army, no other standard should be tolerated. The logical, intelligent and feasible objectives of any schedule obviously should make instruction in field duties concurrent with that in other basic duties, and to demand high proficiency in all. Other than in extreme emergency the period should not be reduced beyond a point where every recruit is soundly and well trained and able to function in his troop without embarrassment, either to the troop, or to himself.

Consequently certain fixed Standards of Proficiency, rather than an arbitrarily fixed number of weeks, should govern the time necessary for completion of recruit training for each individual. Those less adaptable must be dropped back to groups on lower levels of instruction so that they ultimately acquire the same prescribed proficiency. If certain ones cannot reach the prescribed standards after a fair trial, they should be eliminated. Since horsemanship is fundamentally and vitally important, it must be thoroughly learned; otherwise, the arm is not worth its cost. No assumption should be made that a cavalry recruit can be trained as soon as an infantryman. It simply is not possible in a few days to teach men to ride well enough to become efficient cavalrymen.

In conducting recruit training, just as in all military work, the enthusiasm and interest of all concerned, from the post commander and colonels down, are essential. Diversification of instruction, continuous detailed planning, careful daily orientation of all instructors on the next day's work, persistent insistence on attaining highest standards and never-ending efforts to improve the whole system, are the objectives of those charged with training recruits. The quality of instruction is vital, for the material is young, impressionable and very valuable.

EDITOR'S NOTE: *It is regretted that the comprehensive and complete Course Outlines for Recruit Instruction, Master Schedule and Daily Schedules covering the progressive and thorough eight weeks' recruit training as minimum essentials for the 2d Cavalry, are too voluminous to publish in this issue of* THE CAVALRY JOURNAL.

Unit commanders and others desiring copies, however, can obtain them by writing direct to Colonel Chamberlin, at Fort Riley, Kansas.

Rest period, field maneuvers

Notes From the Chief of Cavalry

Personnel

OCCASIONALLY, letters are received by cavalry officers on duty in Washington from cavalry officers stationed elsewhere requesting the former to obtain information regarding present or future assignments. Apparently this is due to uncertainty as to whether or not one should write direct to the Office of the Chief of Cavalry. One should!

In order that all cavalry officers might know our Chief's policy in this matter, attention in invited to the following quotation:

> **"A copy of WD AGO form 'Statement of Preferences' is now kept on file in the Chief of Cavalry's office and is always referred to whenever recommendations are made for new assignments. It should be remembered that many factors are involved in such cases and it is not always possible to accede to individual preferences. It may often happen, however, that after the Preference Card is sent in, vital problems may arise in an officer's affairs which would change his list of preferences. In such cases it would be of mutual benefit for the Chief of Cavalry to know these facts. Cavalry officers should feel at liberty to communicate directly with the Chief of Cavalry's office, and every consideration will be given insofar as is possible by the Chief of Cavalry when recommendations are made for new assignments. It is the policy of the Chief of Cavalry to permit those, who so desire, to serve in the Armored Force."**

* * *

The New Cavalry Division

Of prime importance to all cavalrymen is the reorganization and augmentation of the Cavalry Division (See chart).

The highlights of this new division are:

The incorporation of a newly designed reconnaissance squadron. This squadron will consist of two scout car troops, a motorcycle troop and a combat car troop. Each scout car troop will be organized similar to the present scout car troop of the Horse-Mechanized (Corps Reconnaissance) Regiment and the Motorcycle Troop will correspond to the Motorcycle Troop of that regiment. The Combat Car Troop will parallel approximately the same type unit of the light armored regiment.

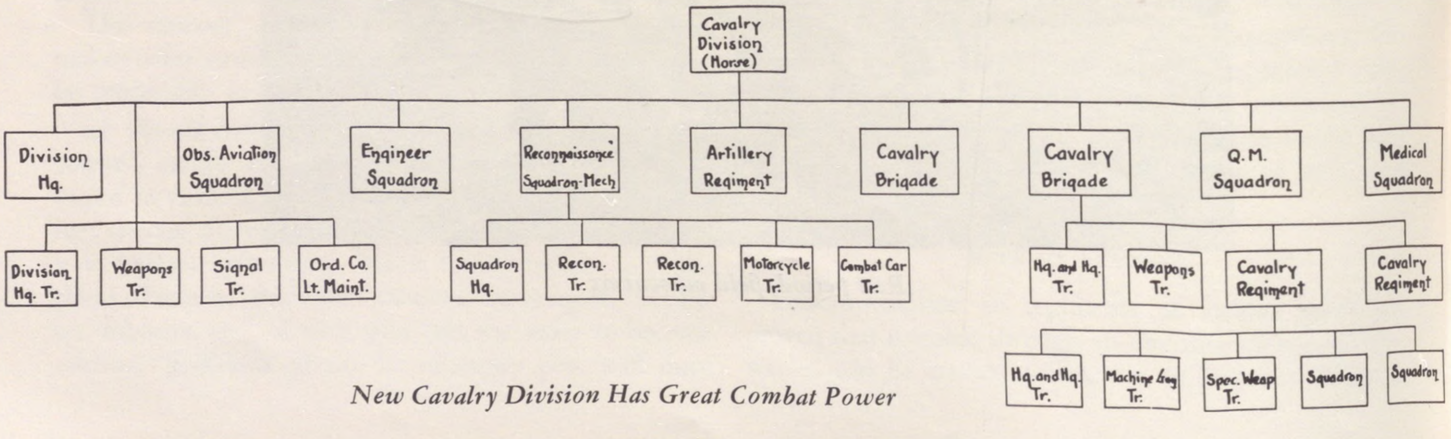
The Division has been augmented heavily with increased antitank weapons. For the Division, there will be an antitank troop containing twelve 37-mm. AT guns trailed by scout cars. For each brigade there is provided a weapons troop, each consisting of twelve 37-mm. AT guns and six 81-mm. mortars. It can be appreciated that these elements, under Division and Brigade control, lend to the Division a high degree of resistance to any attack by lightly armored vehicles. All of them will be completely motorized.

The Division Field Artillery will continue the retention of two 75-mm. howitzer battalions and will be supplemented by a third battalion of twelve 105-mm. howitzers, motorized.

The Engineer Squadron, the Quartermaster Squadron, and Medical Squadron have been increased to meet all needs of the larger Division. The Ordnance Company, previously a light maintenance unit, now becomes a medium maintenance company. Within the Cavalry regiment, we will continue with a Headquarters Troop, Machine Gun Troop, Heavy Weapons Troop, and 2 Rifle Squadrons of three rifle troops each.

Armament of this new Division is indicative of its combat power:

Light Machine Guns, Caliber .30	299
Heavy Machine Guns, Caliber .30	416
Caliber .50 Machine Guns	268
Caliber .45 Sub-Machine Guns	649
37-mm. Antitank Guns	36


Cavalry Division (Horse)
Division Hq.
Obs. Aviation Squadron
Engineer Squadron
Reconnaissance Squadron-Mech
Artillery Regiment
Cavalry Brigade
Cavalry Brigade
Q.M. Squadron
Medical Squadron
Division Hq. Tr.
Weapons Tr.
Signal Tr.
Ord. Co. Lt. Maint.
Squadron Hq.
Recon. Tr.
Recon. Tr.
Motorcycle Tr.
Combat Car Tr.
Hq. and Hq. Tr.
Weapons Tr.
Cavalry Regiment
Cavalry Regiment
Hq. and Hq. Tr.
Machine Gun Tr.
Spec. Weap Tr.
Squadron
Squadron

New Cavalry Division Has Great Combat Power

81-mm. Mortars	28
60-mm. Mortars	28
Pistols	7,020
Rifles	3,160

Combat vehicles may be summed up roughly as:

Scout Cars	178
Mortar Carriers	12
Combat Cars	17
Motorcycles	420

and a total of 187 motor trucks. It is believed that this new Cavalry Division represents the most formidable unit of its kind ever designed within any army.

* * *

Equipment

The Chief of Cavalry has recommended that the Quartermaster squadron of the Cavalry Division be equipped with two and one-half ton, 6 x 6, stock-rack-body trucks, and two and one-half ton truck-tractors with semi-trailers such as the Corps Reconnaissance Regiments are now supplied with. This proposed transportation will enable a division commander to portée approximately one reinforced squadron.

Another recommendation made was that all cavalry units be supplied the two and one-half ton truck rather than the one and one-half ton truck. This change will give horse units the needed extra tonnage without increasing the number of trucks and will also serve to standardize the truck transportation in the Cavalry as a whole.

A new light reconnaissance vehicle, being procured by the Quartermaster Corps, will soon be ready for test. It is hoped that this vehicle will fill a long-felt need and combine the lightness and speed of the motorcycle with the cross-country mobility of the scout car.

In an effort to facilitate the supply of recently declared controlled items of equipment, all supply branches have been furnished the cavalry requirements of those items. It will not be necessary for organization commanders to submit requisitions for these controlled items of equipment as they will be supplied in accordance with War Department priorities as they are received from manufacturers. Information from the various supply branches is to the effect that new equipment will soon be available and that all units should begin to receive their share of such equipment in the very near future.

A Combat Car

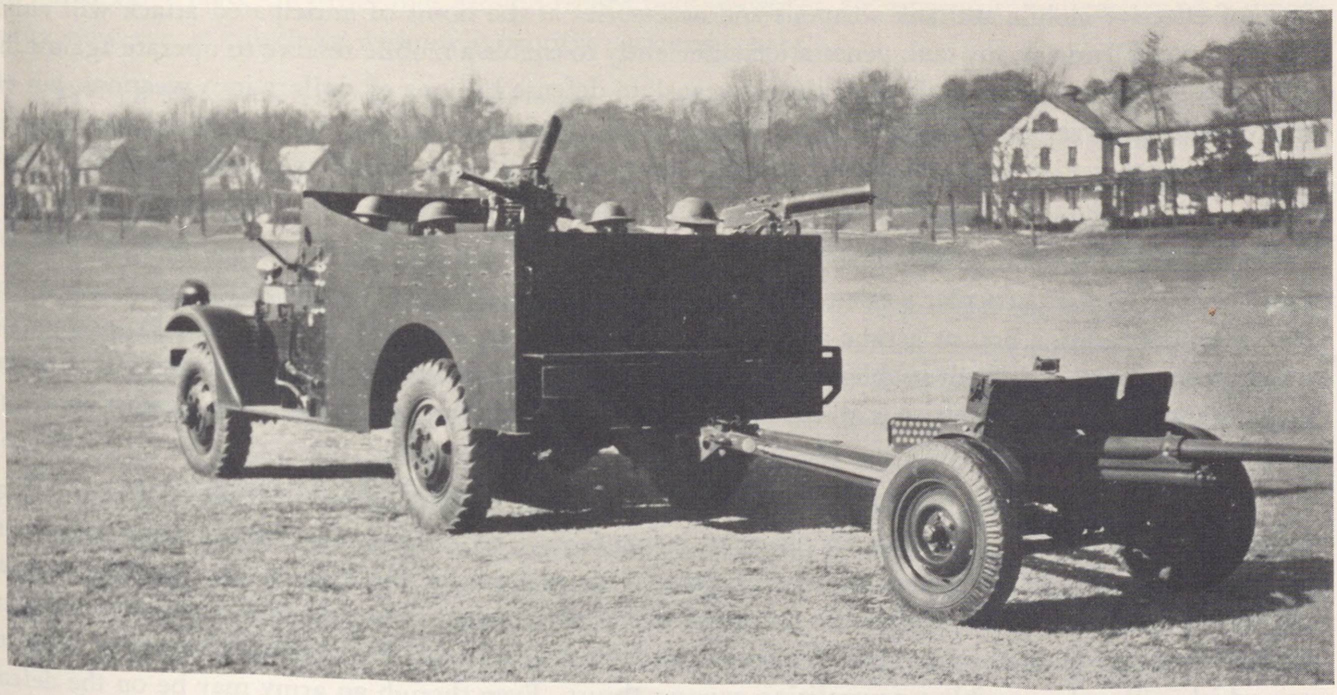
The following vehicles have been requested for test by the Cavalry Board in order to determine whether or not they will fill any of the needs of the Cavalry:

a. Full track light cargo carrier, T-5.

b. One-half ton, 4 x 4, truck, pickup, with bucket seats (weapons carrier).

c. The new half-track scout car will be requested when it becomes available.

d. Half-track mortar carrier.



The Antitank Troop in the new Cavalry Division will contain 12 of these 37-mm. guns, trailed by scout cars

Editorial Comment

Counteraction

GERMANY'S "blitzkrieg" tactics in Europe have been extensively and perhaps overly publicised. Now, that due consideration has been given to the political and Fifth Column "internal softening" aspects—and measures are being taken to meet such a threat to the United States—everyone seems engrossed with the thought: "What purely military defense is there which can be made effective against this devilish blitzkrieg system of attack?"

Theoretically, the answer is very simple; to be put to practice, however, it requires foresight in planning and adequate preparation, and respect for the enemy's capabilities. Obviously, a prerequisite for blitzkrieg tactics is air combat superiority and a *modern mobile ground fighting force* capable of rapidly negotiating varied terrain. The Allies knew this, for did not General Allenby in his Palestine Campaign in the *Battle of Armageddon,* September 19, 1918, adhere precisely to this principle in crushing the German officered Turkish army? And later, in the International proving ground of Spain, was not the tremendous advantage of air superiority clearly indicated? And finally, there was the Polish blitzkrieg in fact to prove this thesis. And yet, who was willing to believe the "handwriting on the wall"?

As for the ground defense, the weakness of the *cordon* method—such as the French *Maginot Line* —has been apparent since the beginning of recorded military history. A cordon defense lacks immediate flexibility. Its flanks are usually vulnerable to turning movements. It is no stronger than its weakest link. If, however, the cordon is intended merely as an initial delaying screen, extending many miles in depth, and is supported by a strong highly *mobile reserve,* it can be effectively utilized.

In Europe, obviously, there was insufficient resistance to the tank attack. The crux of that situation may have resulted from the Allies' air inferiority. Air superiority is fleeting; one side may have it for a short time and then temporarily the other side may obtain it. The point is to have it when it is needed. It is of common knowledge that weapons now exist which will stop a single tank. A preponderance, therefore, of effective mobile antitank weapons and accessories at the point of anticipated attack will either stop or materially delay any tank penetration sufficiently to enable a mobile reserve to operate against the attacker's flanks or flank-rear. It takes time to translate defense billions of dollars into weapons, but effective antitank weapons capable of being transported in animal-pack or in light armored vehicles, can be supplied at a greater time and dollar rate than tanks can be, and the Allies could have had them available.

An aggressor nation, knowing the weakness of a defending nation, naturally is able to build up a superiority over that particular weakness. When the aggressor strikes, it is after thorough planning for that specific operation and at a time and place of his own choosing. It is precisely this consideration which presents such a difficult problem for the defender; the problem of an immediate massing of means to counter the attack. It likewise is all the more difficult to build up a national defense against an enemy —not yet definitely defined.

We know that *surprise* is the basis upon which all strategical combinations are formulated. The aggressor's strength always has lain in his power of *maneuvering,* of hiding his movements and intentions, and then *massing* suddenly against some weak point with, at least for the moment, an apparent or real superiority of combat power with which the defender at that moment is not prepared to reckon. Any plan of defense similarly, therefore, should be flexible and constructed with the element of surprise present; one which will make possible a neutralizing counter thrust. Even though an army may be on the defensive, counter offensive action produces decisive results. This suggests the advisability of meeting an adversary offensively when possible rather than voluntarily to surrender the initiative to the adversary by waiting for the blow to fall.

In other words, every new football play is a potential *touch-down,* and it often succeeds; but after the surprise play is known it is easy to prepare an adequate defense to stop it. Unfortunately, the *defense lags;* it often is just one play behind in combating alert opposition. Since the blitzkrieg attack has had its surprise play, its future value now is questionable, but not to be forgotten; at least, its value has been considerably diminished. In the World War the surprise play was produced by flame-throwers, lethal gas and the tank, but an effective defense against them was finally devised. In the present war, the blitzkrieg method has achieved amazing results, but we in America, obviously, should think objectively of the future rather than of the present and past. The problem for us now is to devise a defense against the *next* new military play that may involve this nation; and this, without knowing the magnitude or character of the thrust, the time it will begin, or the direction from which it will come.

What of the next two years? What can we do in the meantime? In this regard, our capable *General Staff* unquestionably is moving in the right direction. We intelligently must assume that a sagacious enemy fully appreciates the potency of the deadliest of all weapons—surprise, and that an indirect attack, i.e., against some distant or adjacent nation which we are treaty-bound to protect, would particularly complicate our problem of defense, more so than a direct assault against our mainland shores, except as a diversion attack.

For the purpose of planning, we must assume that a surprise attack by a major power is possible; every layman should understand this hypothesis. If the operations develop in some other part of the Western Hemisphere, we must have a protected water-line of communications to some nearby area from which to operate; or else move our armies overland; or preferably both. Where the roads and terrain are favorable, such as exist in Europe, mechanized and motorized units probably would be effective. In the Western Hemisphere, however, the situation is not likely to be the same as in Europe so we must consider all of the means available to us. History teaches us that against a mobile enemy the most reliable ground instrument for counteraction lies in initial delaying groups in great depth, supported by a strong equally mobile reserve; in other words, a *mobile fighting element,* supported by mobile engineers and artillery and with air superiority, capable of immobilizing the enemy, preparatory to applying the crushing tactics of the infantry mass. In order that ground troops may maneuver, air superiority is necessary. Air superiority, however, is indecisive without appropriate ground troops.

In any event, some ground force obviously must perform such missions as reconnaissance and counterreconnaissance; security for other forces on the march, at the halt, and in battle; pursuit and exploitation of a break-through; delaying action; seizing or holding important terrain until the arrival of less mobile forces; covering the withdrawal of other forces; providing liaison between large units; raids; escorts for convoys; constituting a mobile reserve for other forces and offensive and defensive combat.*

Cavalry is that combatant arm of the army organized primarily to perform those missions of ground warfare, as above listed, that require great strategical or tactical mobility combined with fire power and shock. The *cavalry mission* is the paramount consideration for cavalrymen, and whatever the mode of travel or fighting weapon the specific situation might require, indubitably it will be utilized by our modern American cavalry in the execution of cavalry missions. It is this characteristic which makes our cavalry force an indispensable element of any well balanced army combat team.

Our cavalry, horse and mechanized, particularly lends itself to effective *counteraction* should we be called upon to prosecute a war in the Western Hemisphere.

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*Normal cavalry missions listed on page 4, *U. S. War Department Cavalry Field Manual, Volume III, Employment of Cavalry.*

Editor's "Fan Mail"

Extracts from letters to the editor . . . relative to the July-August Cavalry Journal cover design:

* * *

Pro

". . . Hooray! At last some attempt is being made to modernize the Journal cover. I sure was getting tired of just looking at that Civil War cavalryman when we don't appear anything like that today. Take him off entirely and use a photograph or drawing of *modern cavalry*."

* * *

Con

"As an Old Timer, I hate to see any changes made in the cover of The Cavalry Journal. The Remington drawing has been an established inspiration to all cavalrymen for many years. We should cut out all of this new fandangled mechanized and motorized business and get back to the horse.

"As always, there still is a definite place for unadulterated horse cavalry in our army without trying to adopt every sort of mechanized gadget that Tom, Dick, and Harry can suggest just because the Allies did not give the Germans a good hand-to-hand fight.

"Stick to the horse! Use the Remington drawing as a cavalry trade-mark. . . ."

* * *

Straddle

". . . The Journal cover now tells a story. I like it! It is descriptive, decorative and dignified. The old horse cavalryman suggests our historical background, while at his feet there is a symbolical parade of modern cavalry as we have it today. The contrast shows the evolution of our cavalry.

"You have hit the nail on the head, so why not leave it alone? Just change the date of each issue.

". . . I agree, also, that the cavalry mission is the thing. Let us use *everything* necessary to put over the *cavalry mission*. In addition to what we already have as shown on the Journal cover, use bicycles, motor-scooters, roller skates and airplanes, too, if we need them. . . ."

* * *

Now, what is a poor editor to do?

* * *

Business Side of Our Journal

To insure better teamwork perhaps it would be well to consider briefly the mechanics of producing an issue of The Cavalry Journal. Our Journal is published bimonthly by our Cavalry Association on a non-profit self-supporting basis—overhead operating expenses included; and this without the financial benefit of paid advertisements.

The operating staff of our Journal at present consists of an Editor, a Stenographer-Secretary-Bookkeeper, and a Circulation Clerk. By the tenth of the odd month the Editor must have assembled and edited the material and planned the set-up, etc., for the projected current issue. This involves considerable correspondence with authors, and frequently manuscripts must be returned for alteration. So it is advisable when possible to get double spaced typewritten copy to us well in advance of our deadline date (for next issue November 10th). On the 20th of the odd-month, all copy for the current issue is sent to our printers in Richmond, Virginia. A week later, page-proofs are received by the editor for proof-reading, paging and adjustment in proper sequence, listing of contents, and final checking. From five to ten days later the Journal is ready for mailing.

The printed pages run in series of sixteen. When money and material are available we publish a 96-page Journal; otherwise, we must drop to 80 pages. A 96-page issue such as the July-August issue costs approximately $1,200.00 including actual mechanical production and extremely nominal author's fees.

Frequently, excellent manuscripts arrive after the Journal has gone to press, and during the two months elapsed time before the next issue appears, due to constantly changing current conditions, the substance of the article either becomes untimely or has lost some of its value.

Our aim is to give our readers that which is timely and of professional value. In view of the present interest in the European War, and in our own army expansion, current demand is for information of European military operations, equipment and organization, and other subjects which have a definite bearing on the training of our own army—especially *cavalry*. Granting that indirectly they do have their place in the scheme of military training, obviously, such subjects as ancient historical exploits and articles with a lengthy preamble or historical build-up, or details of polo and athletic games or horseshows and hunts, fall into a secondary category at this time, in favor of strictly military subjects and human interest bits. Many elaborate and valuable theses are submitted, each of which would consume nearly all of our limited space when printed. In many instances, with sufficient thought and preparation, the full exposition of the subject probably could be reduced by the author to three or four thousand words—on the basis of a thousand words to a printed page. It should be remembered that professional art work and redrawing of topographical maps is expensive and for us is often prohibitive.

Frequently, the *Infantry* and *Coast Artillery Journals* mutually share expense with us in obtaining worthwhile general features; there is practically no overlapping in our respective fields. An author, however should never submit an article to more than one publication at a time. Unless the editor is so informed, there is danger of copyright confusion. Whenever such an incident is discovered, an editor very wisely is hesitant about considering future contributions from that source for publication, irrespective of the excellence of subject matter and presentation.

When authors desire the return of unpublished manuscripts it would be appropriate and most appreciated if return postage were sent us for this purpose.

Our circulation clerk maintains approximately 3,200 addressograph plates. When subscribers fail to furnish us a change of address we usually lose copies which are not forwarded to our readers. Notice of change of rank also is requested.

Our envelopes with yellow expiration notices, statements of account, circulars, etc., are prepared in our editorial offices (1624 H Street, N.W., Washington, D. C.) and are sent to Richmond for mailing. Please don't through inadvertence, let subscriptions lapse. Help the Association to reduce clerical time and postage by paying subscription fees promptly from expiration notices and in advance of your bill.

At present, our author's fees necessarily are absurdly nominal when compared with the worth of the contribution. We count on the interest and loyalty of our members, therefore, to contribute suitable material.

It obviously is mutually advantageous when you help us get new subscribers; and give us the favor of your book orders—on which we get a small commission. ***Every member is requested to get at least one additional member without delay.*** We urgently need new members! With your valued continued coöperation in this respect we can maintain and gradually improve the standard of our JOURNAL. Your constructive comments in this regard will be appreciated.

* * *

Fantastic?

Several years ago, we read a paper relative to mechanization which had been presented at a European War College (not German). It visualized a future war in which fleets of mechanized and motorized "Light Divisions" (cruisers and destroyers) supported by tremendous artillery fires combined with vast (naval fleet) aerial formations, were followed by "Heavy Armored Divisions" (land battleships) with "Parachute Divisions" alighting to exploit the victory. (The Trojan Horse, only, was omitted).

An accompanying comprehensive discussion, primarily of national resources, ended with: "***Gasoline***—says the land army, or I must forego extended maneuver; resulting in inevitable defeat. ***Gasoline***—says the air army or I shall disappear from the sky; and the command will become blind. ***Gasoline***—says the navy, or my boats will be unable to navigate under water and very little otherwise. It is I who insures the necessary general supply." From which, one easily can deduce that the conclusion favored the *negative* point of view.

"Contempt of the enemy and ignorance of his strength and resources often presages disaster!"

The Farmer's Problem

The American farmer has been hit hard and by his own choice. Early farm census schedules indicated that oxen were the main source of farm power. Then came horses and mules, and they mounted to a grand total of 27 million in 1920. Now they are down to approximately 15 million by reason of the substitution of tractors and trucks. In 1930 more than 3,650,000 farmers had over 4,000,000 automobiles, 900,000 motor trucks, and 920,000 tractors. Tractors had quadrupled in 10 years. They had replaced nearly 6,000,000 horses—horses that used to consume the feed produced by 30,000,000 acres of land, so that the farmer now is confronted with finding uses for this land for cash crops, *to buy gasoline and oil.*—From: *U. S. Department of Commerce.*

* * *

Dustless Bridle Paths

After exhaustive experimentation with road oil and calcium chloride, the Chicago Park Commission has arrived at the final conclusion that plain water, applied by sprinkling tank trucks, is the best means of the laying of dust on bridle paths. This method is now exclusively used for dust laying purposes on the 33.9 miles of bridle paths in Chicago, Illinois.

* * *

Numbering of Cavalry Units

In reply to several queries, the following information is furnished:

	Block of numbers assigned (incl.)			
Cavalry Unit	Regular Army Only	Regular Army and Organized Reserves	National Guard Only	Organized Reserves Only
Cavalry Divisions.	1- 20		21- 60	From 61
Cavalry Brigades. .	1- 50		51-150	From 151
Cavalry Regiments.	1-100		101-300	301-500
Armored Car Sqns.	1- 20		21- 60	From 61
Separate Cavalry Squadrons		From 501		

* * *

Horse and Mule Purchase

The following average prices were paid for the different classes of horses and mules for the fiscal year ended June 30, 1940.

Animals	*Average price*
Horses, riding	$163.57
Horses, riding, light	99.90
Horses, light draft	165.47
Mules, draft	207.69
Mules, pack and riding	187.37

Activated Cavalry Units

In connection with the bringing of the *1st Cavalry Division* to peace strength, the following activated units have permanent station as indicated:

Unit	*Permanent Station*
Troops C & G, 5th Cavalry	Fort Clark, Texas
Troops C & G, 7th Cavalry	Fort Bliss, Texas
Troops C & G, 8th Cavalry	Fort Bliss, Texas
Troop C, 12th Cavalry	Fort Brown, Texas
Troop G, 12th Cavalry	Fort Ringgold, Texas
Troop C, 16th Quartermaster Squadron	Fort Bliss, Texas

* * *

Expansion of Colored Units

Colored citizens constitute approximately nine per cent of the total population of the United States and the men selected for military service will be in about the same ratio. Of the first increment of 400,000 men to be called into the service as the result of the Selective Service Act about 36,000 will be colored.

To the extent that this affects colored cavalry organizations in the Regular Army, namely, the 9th Cavalry at Fort Riley, Kansas; and the 10th Cavalry at Fort Leavenworth, Kansas, Fort Myer, Virginia, and West Point New York, these units will be expanded to full war strength and be assigned to GHQ reserve.

* * *

Guard Cavalry Reorganization

The Cavalry of the National Guard faces a comprehensive reorganization. The current four cavalry divisions in this component will be discontinued as such. A number of their regiments will remain as cavalry units; the remainder will find activity in such units as antiaircraft, field artillery, and engineers.

The Guard Cavalry regiments which will remain as cavalry have been selected with considerable care to guard and preserve units of historic note, such as the famous "Squadron A" of New York, the "Philadelphia City Troop," "Cleveland Black Horse Troop," and others. The seven regiments remaining in the cavalry family will be converted into *Horse-Mechanized Regiments,* generally referred to as Corps Cavalry Reconnaissance Regiments, a unit newly designed and tested in maneuver during the past six months.

The Regular Army now has two such regiments: the 6th Cavalry (H-Mecz) at Fort Oglethorpe, Georgia, assigned to the IV Corps; and the 4th Cavalry (H-Mecz) at Fort Meade, South Dakota, assigned to the VIII Corps.

National Guard regiments to be converted into Horse-Mechanized units and their assignment to Army Corps will be as follows:

101st Cavalry (H-Mecz), New York, to the I Corps
102nd Cavalry (H-Mecz), New Jersey, to the II Corps
104th Cavalry (H-Mecz), Pennsylvania, to the III Corps
106th Cavalry (H-Mecz), Illinois, to the VI Corps
107th Cavalry (H-Mecz), Ohio, to the V Corps
113th Cavalry (H-Mecz), Iowa, to the VII Corps
115th Cavalry (H-Mecz), Wyoming, to the IX Corps

When brought up to full strength, these regiments eventually will consist of 61 officers and 1,088 men. Within each Horse-Mechanized regiment will be found 286 caliber .30 machine guns; 119 caliber .50 (antitank) machine guns; 259 sub-machine guns, caliber .45; 88 scout cars, and 171 motorcycles. Also there will be 46 cargo trucks for supply and 73 truck trailers to transport the horses.

The 5th Cavalry Brigade, Texas, composed of the 112th and 124th Cavalry Regiments, will remain horse cavalry.

* * *

Congratulations and Thanks – – –
Colonel O'Brien and the 113th Cavalry

"Enclosed are remittances totalling $114.00 in payment for subscriptions to the JOURNAL of all the officers of the 113th Cavalry Iowa National Guard. Although our regiment is being converted into a horse-mechanized regiment, the JOURNAL will be even more valuable to us. The articles that have appeared in the JOURNAL during the past year have been extremely instructive and interesting. All of the officers of this regiment feel that they could not get along without this publication, and we are glad to remain in the *100% classification.*"

* * *

Cavalrymen!

Every cavalryman has at least one good thought-provoking idea relative to cavalry affairs—training, organization, equipment, and logistics.

Your ideas and experience may be of greater value to other cavalrymen than you, modestly, are willing to believe. . . .

Give your brain-child a chance to grow up and migrate. You know, *genius as applied to the military art is, for the most part, merely the application of "common sense" to a superior degree. . . .*

Send a screed to your CAVALRY JOURNAL—deadline, next issue, November 10th. **Spark up, Cavalrymen!**

* * *

Let's Go Around

By Colonel C. P. Stearns, Cavalry*

I HAVE been asked by the Editor of The CAVALRY JOURNAL to record my ideas of *cavalry operating methods* gathered as Chief of Staff of the 1st Cavalry Division, and as a Regimental Commander in that division during the past few years; but, in view of the amazing results achieved by Germany in Europe, many of our ideas of tactical methods are being influenced by this astounding picture. Steel-pointed, rolling forces have crushed through static resistance to open the way for the destruction of armies. This is the warfare for which our new army must be prepared and in which our horse cavalry must take its part. Such warfare will demand the utmost use of cavalry's maneuverability and the attainment of the highest ability to maneuver.

In our academic training, it is necessary for officers to learn to walk before they can learn to run. Unfortunately, there is so much detail to teach them that we do not get around to instructing them how to do things on the run before the school year is over, and they must learn by themselves. It is only by the brief periods, when they are in command of troops, that they get a chance to learn something of the difficult problem of rapidly handling swift-moving commands against a fast-maneuvering enemy, which is what I mean by learning how to run. If we are trained for this, we need not fear lesser problems. It would seem, therefore, that we should primarily point our methods of leadership and training against mobile troops such as horse cavalry, mechanized forces and infantry maneuvering in trucks. If we can handle these, we should certainly be able to operate against slower moving forces.

ERRONEOUS IMPRESSION

Unfortunately, most peacetime *attack* exercises, in schools and with troops, are drawn with the enemy in a defensive position. This is probably so because it is difficult to draw a problem with the enemy maneuvering and still more difficult to solve such a problem, especially with actual troops. Yet, the situation would be rare where the mission of an independent cavalry force required it to attack an enemy in the position of ***his*** own choosing. A more usual offensive cavalry mission, at least, would allow our forces to *maneuver the enemy out of position* and then strike him as he comes to meet us. We may be sure, if he is approximately our strength and has taken up a defensive position, it is because he hopes to see us shatter ourselves against what he considers the best defensive terrain in the vicinity. It would seem, therefore, that unless we are ordered to do so or an unusual mission requires us to do so, the last thing we should consider is going up against his position, either by a combined attack or any other form of attack. We would need at least a three to one superiority of fire to succeed.

But, if our mission requires us to fight the opposing force which is in position, except such force as is necessary to cover our movement, let us go around him with our whole command, and strike him in rear. A flexible, well-trained cavalry force, moving in approach formations, with security detachments out, can change front so swiftly that it can be said to have no flanks or rear in the sense that slow-moving troops possess these vulnerable spots.

In fencing, it is the maneuvers before the lunge which cause an opponent to make a mistake so that our foil reaches home. In tactics, the same is true. If our opponent is uncovered or untrained, one lunge may do the trick, but we cannot count on this.

The enemy may soon discover such maneuvers and, when he does, he can face about, if the terrain is suitable, but he must provide for his led horses and rear units. This is a difficult task. He may decide to vacate and fight elsewhere, sending a force to cover his maneuver. All this takes time. If our commander's maneuver is successful and he finds the enemy unprepared, he can attack him from the rear with infinitely more chance for success than if he had attacked him from the front.

In this connection, let us consider what a cavalry force does when it finds itself in rear of a large force of all arms. A coördinated attack against the entire rear of an enemy's position of great extent is impracticable. On the other hand, a coördinated attack against a small part of such an extensive position would probably result in our cavalry being *contained* locally by a force no bigger than itself. Yet, here, extending for miles in his unprotected rear, scattered and concealed are the enemy's personnel truck columns, his artillery and his CPs. At this time, as much as we may dislike to do so, we must decentralize control if we are to reap the harvest. We will have to send our regiments and squadrons in their respective sectors to paralyze the enemy by striking simultaneously along as wide an extent as these units can handle. They will destroy rear installations and truck columns as they progress, never permitting themselves to be contained, keeping out of serious engagements and eventually reassembling in the designated area. This type of action will take a high order of leadership in all grades and great maneuvering ability but we can do it and we can do it better than another branch can do it. But, now, let us take a simpler situation, one to which we are more accustomed in our map problems and maneuvers and let us consider, in more detail, the maneuvering phase of the action.

THE MANEUVERING PHASE

Let us assume that a commander has a brigade of horse cavalry and is opposed by an enemy horse cavalry force in his front. Our commander, who is restricted by no defensive mission and who, let us say, considers it necessary to destroy his opponent, is leading his command across country in approach formation in column of regiments. Away to the front are his observation planes. Covering his front and flanks are his scout cars. His horse patrols precede him by two or more miles. His covering force, deployed widely enough to cover the front of the command, has preceded our commander. He directs its movements from ridge to ridge and joins it on each ridge. With him are his command group and his regimental commanders, with their S-3s and messengers. The executive brings on the brigade, keeping it well back, say the next ridge back, possibly farther, if the enemy's artillery is active. General Von Bernhardi, in his books on cavalry, speaks of the danger of having troops too close to the commander. If troops are too close, it is difficult to change direction, moreover, the commander has a psychological feeling of being pushed from behind. I personally have felt it and have heard others speak of it. It undoubtedly accounts for many attacks that should not have been made.

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*Now Chief of Staff, 6th Division.

In moving behind his covering force, it is necessary that our commander have continuous and instant contact with his planes and scout cars in front and flanks. For this purpose, his radio command car must stay as close to him as possible. Five minutes delay in getting a message at this stage may lose a fleeting opportunity. In the scout car, besides the radio operator, is his S-2 and his S-3 and the Sergeants of the S-2 and S-3 sections. Continuously, they plot the position of the command and the enemy's position, hence, there is no worry in a commander's mind of his own exact location and the latest enemy location.

Another vehicle with a radio in the division net is with the executive at the head of the column. Contact between the executive and our commander is by connecting files and communication is by messenger or by "walky-talky" radio. Both the commander and the executive must have some messengers with them. The commander needs also two or three young, intelligent officers as "gallopers" who are seeing things in front with his eyes and who know his plans. Unfortunately, we rarely have enough officers for this duty.

With his well-trained troops disposed as stated, our commander feels he is ready for anything, in any direction, at any moment. His troops are well in hand and he intends to keep them in hand until the final issue. If he had neglected some of the precautions he has taken, he might have trouble, therefore, it would seem that the important things about a tactical maneuver are the following:

Distant reconnaissance, if possible.
Close-in reconnaissance.
All-around security, including, especially, a covering force.
The command, led by its commander, with his next subordinates and command group, all behind his covering force.
Movement of the command in approach formation by bounds from terrain feature to terrain feature.
Sufficient depth to provide complete freedom of movement of the command into any formation or to any direction.

* * *

For distant movements, strategical or tactical, and in heavily wooded or impassable country, the forces may move on roads but, as far as practicable, the principles outlined will govern, not only for mounted troops but dismounted troops and those in vehicles.

There is no great secret about maneuvering before combat but, strange to say, it is rarely well done. In fact, it is so rarely well done and is such an important part of Cavalry leadership, that it is worth our while to consider the reasons for our lack of proficiency in maneuvering cavalry forces. The subject is especially important at this time in the development of our armed forces because the principles of maneuver apply also to mechanized and motorized forces and the problems of security and control are equally applicable to such forces.

BATTLE DRILL

The close order drill of Frederick the Great has been used by modern armies as a disciplinary drill but we forget that that drill was the Great Frederick's *battle* drill. His men maneuvered and fought in such formations. That is why he drilled them in these formations. *We have no battle drill.* We have close order and extended order drills, tactical problems or maneuvers. These last are followed by critiques, often of doubtful value, but the thing most needed we have not, namely, *battle drills.*

Tactical problems are not drills. They are more like Saturday's game to a football team for the reason that there is no step by step instructive process, rather they are complete actions, including all mistakes, followed by critiques, which if listened to at all, are quickly forgotten. With only a blackboard discussion of plays on Monday, no football team can expect to play a winning game on Saturday. It must have daily practice.

The same thing applies to a military team and by team is meant the unit that we are going to maneuver, a regiment, brigade or division. By maneuver is not meant the issuing of five paragraph field orders for an attack or defense, but the leading of a unit prior to an attack or defense so that it is instantly ready for any situation. The commanders of units should be the ones to lead them in battle drills of maneuver, not only to gain facility, but in order that confidence may be established between commanders and their troops. In this connection, it should be stated that the Formations A, B and C developed by the present Chief of Cavalry, Major General John K. Herr, when he was regimental commander, are a starting point of the utmost value for these maneuver drills. Signals for these and other formations can be easily made up and quickly learned so that a command can move from formation to formation at top speed even while it is changing direction.

The command should be drilled as if it were maneuvering against an enemy. All its security and reconnaissance elements must be out. All its control agencies functioning. It must be drilled so as to be able rapidly to change approach formations, to open and close approach formations. Also to change directions of movement to flank or rear with facility and, having done so, to put out new security and reconnaissance elements and to gather in the old ones. Then the unit must be drilled in going swiftly into the attack from any approach formation in order to insure that it can take advantage of the fleeting opportunities of the battlefield. It must also be drilled in taking up, with great speed, a defensive position, or going into a delaying action. It must be drilled until it can do these things accurately with great flexibility, at fast gaits, faster gaits even than it might do them in war. For, if we can do these things rapidly, we develop dash and *elan* and will be sure of doing them at slower gaits. These things should first be done, if possible, on the drill ground or other open terrain where all can see the complete picture and gain confidence. If any movement is not well done, it should be stopped and corrections made.

* * *

In concluding, let us go back to our commander as he moves toward the enemy. To him, as to all of us, the maneuvering of a cavalry force, even in maneuvers, is a thrilling experience, if he and his command have practiced it until they have mutual confidence. The hundreds of galloping horses and eager, excited men back there with the executive—the doubt as to what the enemy is doing now—the possible plans—shall he go on? Is this the right direction? How about that flank? Patrols report that the enemy is ahead but the picture is still vague because our leader has not seen it. He is tense and eager and set to attack. He is riding the crest of the wave and all eyes are focussed on him. His command turns as he turns and stops as he stops. The power of the gods is his. Success is in his grasp. Quickly, he joins his covering force on the ridge but, as quickly, stops. There, on the next ridge ahead, he sees the enemy's machine guns and more machine guns, ready and waiting. The picture now is clear. He forces himself to be calm and to think. His blood is hot with the chase and there, just ahead, is his quarry. Every impulse says to go forward. Only good judgment counsels, "steady" and then comes his decision, "*We will go around and hit him from the rear,*" says our leader.

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FIELD TRAINING OF R. O. T. C.

By COLONEL E. A. KEYES, Cavalry*

THE field training this year of the Reserve Officers Training Corps, Eighth Corps Area, was a variation from the usual training; first, as to length of time, which averaged fourteen days for each camp; and second, in that all trainees were concentrated at one point and the various arms trained throughout the entire period.

The camps consisted of the following: At Fort Bliss, Texas, two groups of Cavalry and one battery of Field Artillery; at Fort Logan, Colorado, one company of Engineers; at Fort Sill, Oklahoma, one battery of Field Artillery; at Fort Crockett, Texas, one platoon of Coast Artillery (AA); and at Camp Bullis, Texas, two companies of Infantry, one battery of Field Artillery, one company of Engineers and two platoons each of Ordnance, Signal Corps and Medical Corps. All Artillery was motorized.

These various groups concentrated at Fort Bliss, by truck marches, arriving on July 1st. July 2d was devoted to reorganization and preparation for movement northward.

The entire group consisted of 1,036 trainees, 569 enlisted men, 67 officers and eight civilians (stock truck drivers), making a total strength of 1,680.

The command was divided into two groups of approximately equal strength, each consisting of one troop of Cavalry, one company of Infantry, two batteries of Artillery, one company of Engineers and one platoon each of Ordnance, Signal Corps and Medical Corps.

OPERATIONS

The general situation under which all operations were carried out was that each group was considered a highly mobile force with a mission of rapidly seizing and holding certain designated points.

Permission was granted by the officials of the various towns for us to conduct the training within each town, firing blanks from all arms.

The first march was made to the Dona Ana target range, a distance of about twenty-six miles from the post of Fort Bliss. The two groups acted together in the field problem. They were given roundabout routes of approach; one group to approach from the south and west and the other from the east and north, thus surrounding the target range.

General instructions were that foot troops would detruck at least four miles from the point to be attacked; mounted troops about ten miles therefrom.

Reliance was largely placed on its use of a "Walkie-talkie" set for communication within the column. This proved unsatisfactory, as each column, when strung out was over ten miles long and even by relaying through the column, these sets were not satisfactory.

Each column also had two No. 171 radio sets for command purposes. These were to be set up for ten minutes on the hour. By the time the truck carrying this set halted, set up the set for its ten minutes, and then packed up again, the column had left it so far behind that frequently a special rear guard had to be left to protect it. These sets are not practicable for rapid motor marches.

Each column had four (4) scout cars, two with radios. These were the only practical means of radio communication throughout the entire march. They were very valuable at times. *In my opinion, all scout cars should have radio.*

The two main reasons for concentrating at Bliss rather than at some other point were:

First, we were permitted to operate in the various towns along the route and were given free camp grounds, wood and water.

Second, it solved the problem of a long haul for the horses in improvised equipment; that is, for example, had we concentrated at Camp Bullis, the horses necessarily would have been hauled six hundred miles to the point of concentration. This would not have amounted to much had we had good equipment.

PORTÉE EXPERIENCE

On the first day's march, the horses were loaded unsaddled. All the horse trucks were grouped together, followed by the trucks carrying the equipment and personnel. The first time the horses were to be detrucked and used, it took fifty-seven minutes for one troop to unload, saddle and start on the mission. It took the other troop thirty-one minutes. This method of handling the troops obviously was faulty. The next day, and thereafter, the horses were loaded, saddled; with saddles stripped. The packs, saddle bags, et cetera were carried in the personnel truck. Each trooper rode in the

PORTEE: Unsaddling, unnecessary.

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*Civilian Components officer, Eighth Corps Area.

personnel truck with his canteen snapped to his belt, with his rifle in the scabbard. When the horses were to be used, the trucks were simply pulled to the shoulder of the road, the tail gate let down and the horses let out. Each trooper went into the truck in turn, snapped his rifle scabbard on his horse, regardless of which side he approached, as the horses were loaded head and tail. He then untied his horse, let him out of the truck, mounted and assembled. ***By the last day, the troops were detrucking, ready to move in 4½ minutes.*** I believe this is the proper procedure in portéeing horses. If they are expected to be used, it doesn't hurt them to be loaded with the packs on ready for combat.

All through the training there was no attempt made to make any tests or discover any new principles. We simply considered that we had two cavalry troops whose horses were portéed. When the men and horses were in the trucks, we moved under the same principles as troops, mounted. When detrucked, the empty trucks were handled similarly as are the horses; we either left them in place, under cover, or later moved them to where we wanted them.

One variation was made in organization of the troop in that the size of the squad depended upon the number of horses carried in the truck. We had six or eight horses in the government trailers and as many as fourteen in some of the civilian trailers. We put the personnel, equal in number, respectively, in a truck following the horse truck. They had "stables" with their trucks as well as their horses. The personnel, being behind the truck, could help, should the horse-truck get into difficulty. We moved these trucks wherever we went, which included the wagon roads up and down the Rio Grande River; and we had no difficulty.

We did not attempt to maintain any specified distance between trucks. When going up some long steep grades, some of the trucks lost a good deal of distance but in traveling thirty-five miles an hour, a distance of one mile meant only two minutes in time for that truck to catch up, so there were many times when there was a distance of a mile or even more between trucks.

We issued trucks to the troop commanders and they handled them as a part of their troop the same as any other equipment. No convoy officer or outside agency was considered necessary, other than that which a troop marching on horses would normally have available.

Instead of having hourly halts, we halted for ten minutes every three hours. During the march of concentration, some of the columns were marched under a convoy officer. A halt was made at the end of the first hour and all trucks closed up. When the last truck was up, a halt of fifteen minutes began. At the end of that period the head of the column moved out. First each truck would have to gain distance, then the one following it moved out and it took two hours to make a fifteen-minute halt. In moving out from Bliss, therefore, the trucks at no time closed up. A halt was made at the end of the first hour for fifteen minutes. When the leading truck turned on to the shoulder of the road and halted, all of the following trucks at once turned off the road and halted without closing up. At the end of the fifteen minutes, all of the trucks moved out together. Thereafter a halt was made for ten minutes for every three hours. We found this to be enough and that the distance travelled between halts was about ninety miles.

CONCLUSION

In my opinion, the government trucks which we had, and those which have been supplied since, are too heavy for tactical use. Another objection, is the assumption that the men and equipment will ride in the truck with the horses. If anything happens to the motor, all of the men and horses are stopped. You cannot separate the men from the horses.

In my opinion, a better vehicle would be a trailer carrying six or not to exceed eight horses, which could be towed behind any truck or car. *This vehicle should be covered and should have a metal trough along the right hand side in which the horses could be watered and fed.* If the truck has all four wheels under the center of the truck, it makes a very efficient vehicle for carrying a load of from three to four tons. If this is towed by the present one and one-half ton truck, the personnel, equipment and one day's forage can be carried in the truck. If it is desired to use the men without taking the horses, for instance, for outposts at night or for any other purpose, you simply unhook the trailers. The horses can be watered and fed in the trailer. On our trip this summer, it took about two hours to unload the horses and water them from the canvas water troughs. If a metal trough were on the trailer, this time could be reduced to the time necessary to run the water into the trough on the truck. Also, the horses could be fed while traveling and would be ready for use at any time. Marches of from 24 to 36 hours could be made without unloading.

As stated before, there was nothing to this movement which was particularly out of the ordinary. It was simply routine training, and we evolved no tactical principles or anything in the employment of horse cavalry that we have not always known. We simply used trucks to move our horses great distances at a rapid rate of speed and have described our method. When we got to where we wanted to use the horses on the ground we took them out of the truck and used them; and when we got through with them we put them back in the truck and went about our business.

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Indirect Machine-Gun Firing

By Lieutenant Bruce Palmer, Jr., 6th Cavalry

IN this day of total war and the Blitzkrieg with its breath-taking rapidity of action, the simplification and speeding up of antiquated technique must be practiced as never before. Let us consider the technique of indirect machine gun fire. Many officers of machine gun units, faced with the problem of obtaining indirect fire data without the communications and headquarters personnel and equipment possessed by a Field Artillery unit, become discouraged at the outset and consequently ignore indirect technique altogether. Many other officers believe that indirect fire will be employed so rarely in combat that to train a unit in its technique would not be worth while. In reality, this is an erroneous conclusion. A machine gun organization that neglects indirect fire is not getting the most out of its weapons and is not a well-trained unit in any sense of the word.

Certainly every machine gun leader should be familiar with obtaining indirect fire data by the use of aerial photographs, for here is a quick and easy method that does not require a box full of instruments and drafting equipment. This method, of course, is predicated on the presence of aerial photographs or photo-maps. However, our modern air service has so perfected and speeded up the science of aerial photography that in most cases aerial photos will be available to troops.

With an aerial photo of the area of operations, our leader need only be armed with a pair of field glasses and a MG protractor. Let us say he is a platoon leader with a battery of four guns. Assuming that he has been given his gun position, a base point in his target area, and an IAP (Initial Aiming Point), our platoon leader is now ready to start work.

At his gun position, the platoon leader orients his photo, and then locates thereon Gun No. 1 and Gun No. 4, the flank guns of his battery. He can do this by any simple method of elementary map reading. Working directly on the photograph, he draws the lines Gun No. 1-Target (G_1-T) and Gun No. 4-Target (G_4-T); he also draws the lines G_1-IAP and G_4-IAP. By means of a MG protractor he measures the base angles established on the photo for Gun No. 1 and Gun No. 4. By direct interpolation he obtains the base angles for his interior guns. He now has the data for laying his guns in direction.

To determine the range, the platoon leader measures the line G_1-T on his photo. He then applies the scale of the air photograph. Most modern air photos will show the scale, but in the event that the scale is not known, it can be readily determined by measuring the photo distance between two points and then measuring the corresponding ground distance between the same two points. Similarly, the ranges G_1-Mask and G_1-Troops are taken directly from the photo.

Going into Table I (Fire Control Data), the platoon leader finds the AE (Angle of Elevation) for the range G_1-T already found. Standing on the mask between gun position and target, or at some observation point where he can see both gun position and target, he can estimate by means of his field glasses and with the use of the mil formula (Range = V.I./A.S. x 1000) the A.S. (Angle of Site) of the line G_1-T. The algebraic sum, of course, of the A.E. and A.S. thus obtained gives the correct QE to hit the target, and the platoon leader now has the data for laying his guns in elevation. Before firing, however, he should ensure the safety of friendly troops and determine whether he has mask clearance, or not.

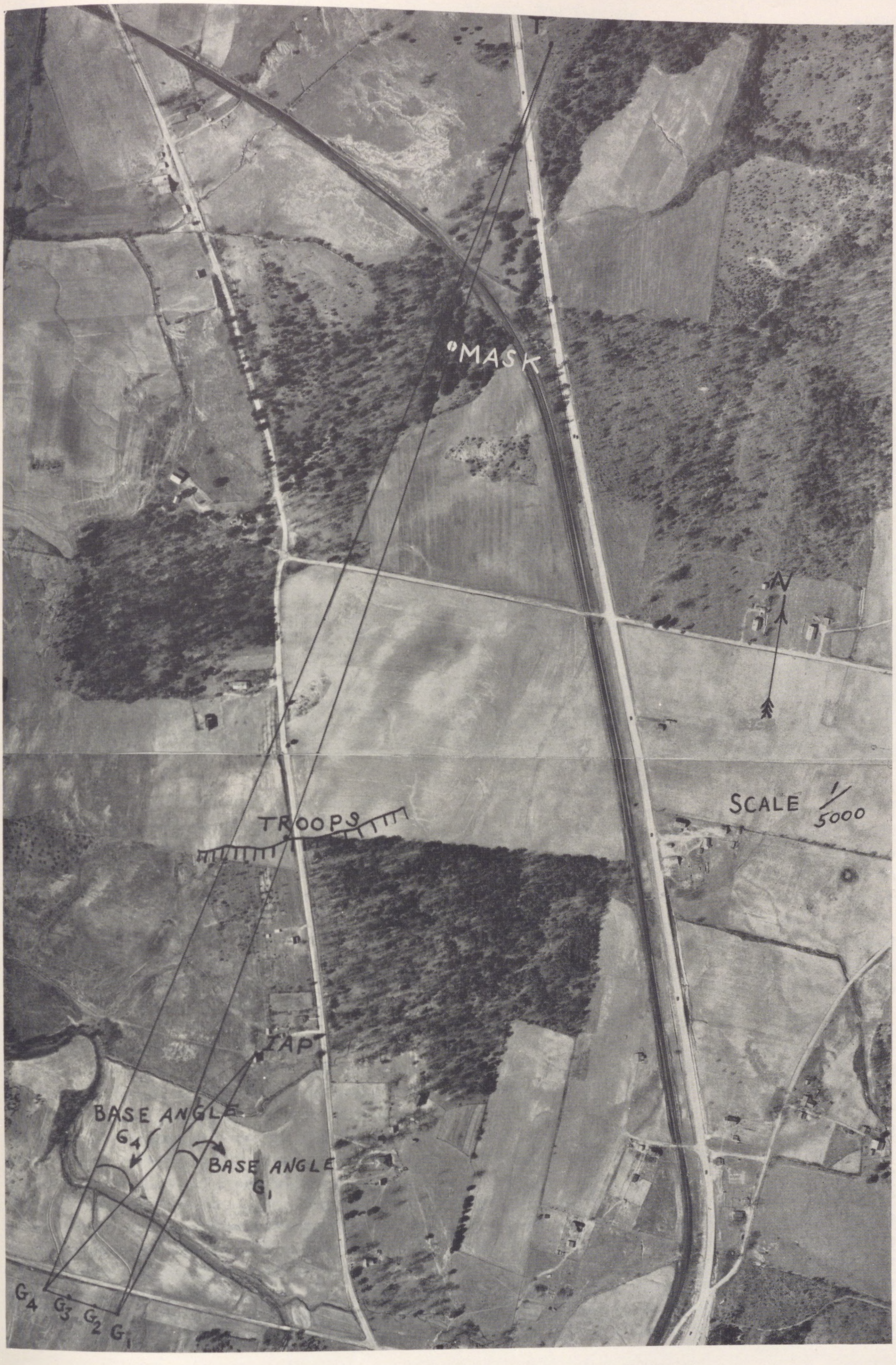
Again, he can estimate the A.S. of the line G_1-Troops and that of the line G_1-Mask by using his field glasses and the mil formula. If the troops and mask are visible from the gun position, he can measure the respective angles of site directly with his field glasses using the mil scale and assuming the most distant horizon to be at an A.S. of zero. Or he can use the gun itself as an angle of site instrument and after leveling the gun with the quadrant, count the number of mil clicks from the horizontal to the troops and to the mask.

Going into Table II, the platoon leader finds the angle of troop safety for the known range G_1-Troops. Adding this angle algebraically to the A.S. above determined for the line G_1-Troops, he obtains the minimum QE for troop safety. If the QE to the target is greater than this minimum QE, it is safe to fire. Similarly, by consulting Table III, he finds the mask clearance for the range G_1-Mask, adds this angle algebraically to the A.S. of the same line, and obtains the minimum QE to clear the mask. If the QE to the target is greater than this minimum QE mask clearance exists.

Assuming he has troop safety and mask clearance, he can now open fire. The amount of traverse, right or left, and the amount of search depend upon the size of the target area assigned him.

The aerial photograph is thus a convenient and dependable means of determining indirect firing data. Since it shows the exact relation of terrain features to one another, the aerial photo is more accurate than a map. But, of course, the photograph gives no elevations, and angles of site must be determined by some other means as stated above. However, if contoured tactical maps are available (scale, for example, 1/62,500) which are unsuitable for fire control purposes, vertical intervals can be taken directly from the map and angles of site thus computed.

Both the Cavalry School and the Infantry School have conducted considerable indirect firing by means of aerial photos.


MASK
N
SCALE 1/5000
TROOPS
IAP
BASE ANGLE G4
BASE ANGLE G1
G4 G3 G2 G1

Area along U. S. Highway 27 south of Chickamauga Park, Georgia.

The Horse-Mechanized Regiment

By MAJOR THOMAS J. HEAVEY, 6th Cavalry

MY purpose in submitting this article is to think out loud for a brief spell, in hopes of stimulating thought and discussion on this new organization. If I have misinterpreted things, bear with me. This is an open forum discussion, and an honest attempt to be impartial.

ORGANIZATION

Although I observed both the 4th and 6th Cavalry (H-Mecz) in the spring maneuvers, things were moving along so rapidly that I did not get a definite picture of just what composed these regiments. Assuming that many of the readers of this article are in the same position, I will briefly sketch the organization of the 6th Cavalry (H-Mecz) which has at present an authorized strength of 61 officers, and 1,088 enlisted men. The major subdivisions of the regiment are:

(1) Headquarters and Headquarters Troop; 11 officers, 115 enlisted men. This troop includes the normal subdivisions of the horse regiment, and includes a Pioneer and Demolition platoon, and an Antitank platoon. In the troop are 16 scout cars, 5 in the P and D Platoon, 7 in the AT platoon, and 4 in the Commander's Group.

(2) Service Troop; 4 officers, 155 enlisted men. This troop combines all supply and transportation facilities not organic in the other troops of the regiment. It provides semi-trailer transportation for the 1st Squadron.

(3) 1st Squadron, horse, portee: 18 officers, 396 enlisted men. This squadron is organized as the present horse squadron, consisting of three troops, "A," "B," and "C." Portee equipment is in the Service Troop. The horse troops are specifically charged with the proper condition of trailers, the prime movers remain with the Service Troop.

(4) 2nd Squadron, mechanized; 21 officers, 413 enlisted men. The mechanized squadron consists of two reconnaissance troops, later on referred to as scout car troops, and one motorcycle troop.

In the regiment there are a total of 88 scout cars and 171 motorcycles.

No organization is perfect, and it may be expected that there will be changes in the future. The outfit however, can, and *does,* function as-is, and due credit is given to the pioneer effort which accomplished this result.

The regiment as now organized is capable of many possible tactical groupings. The mechanized elements are employed for "distant" reconnaissance, and the horse elements for "close" reconnaissance. The mechanized squadron may be sent well to the front, with the two scout car troops operating in wide zones of action, and with the motorcycle troop following up; ready for quick action toward any particular threat or particularly important terrain feature, either under squadron or regimental control. The horse squadron follows this advance under a similar schematic set-up. Parenthetically, my personal reaction to this, so far, is not strongly in its favor. The terms "distant" and "close" border on the academic, and I am candid in my belief that a combination of horse and mechanized elements acting together, will do a better job than either, independently.

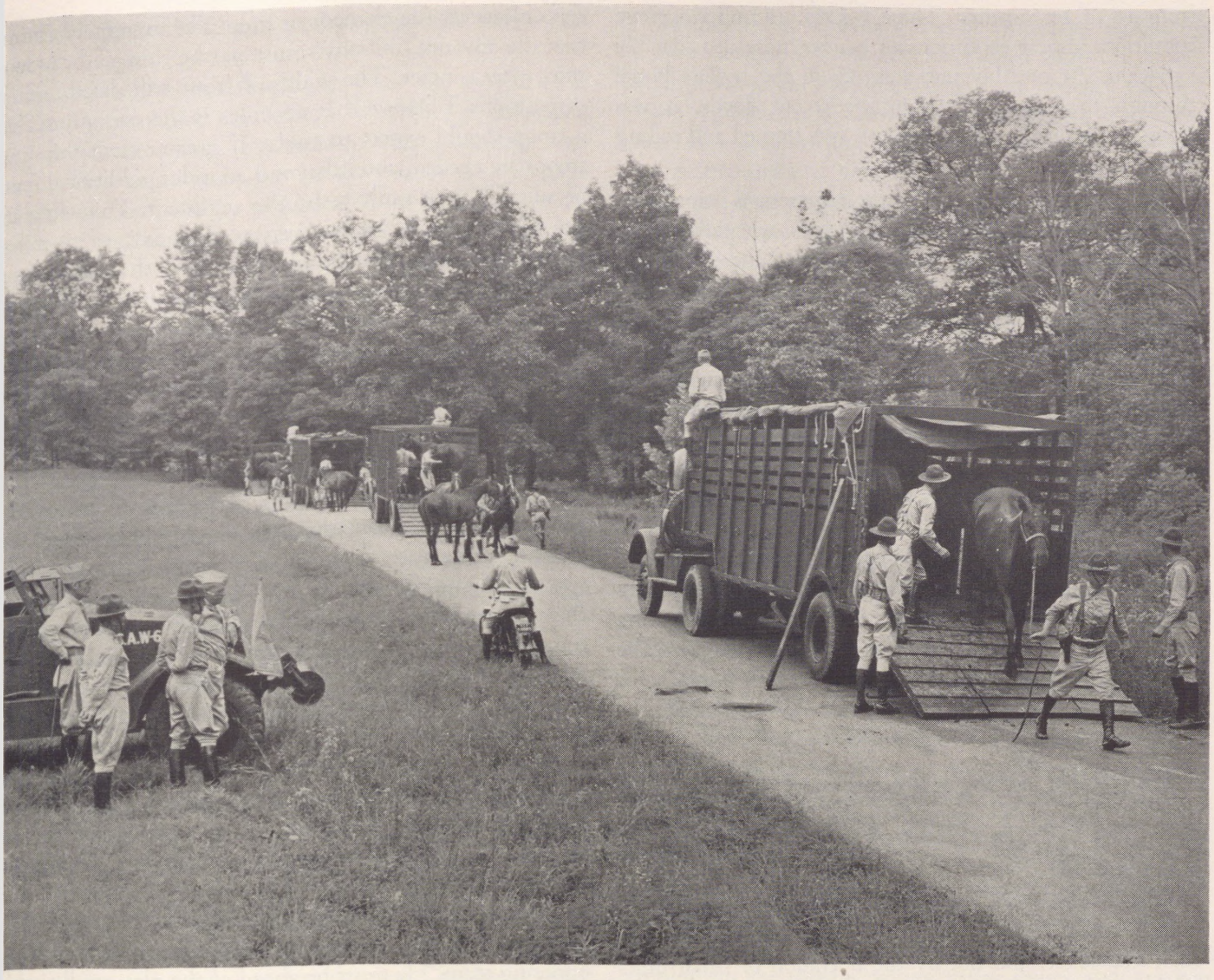
Terrain may make it advisable to combine horse and motor reconnaissance on one broad front, the mechanized units being alongside the horse units, or on different flanks. Such a division of horse and mechanized units of the regiments, however, should be a temporary situation only, and one not to be sought, if any other alternative is possible. Horse units can operate more effectively if coöperating with mechanized units. Mechanized units invariably need the protection and coöperation of horse units.

The use of "Teams" composed of both horse and mechanized units, appears to have greater advantages than the separation of horse and mechanized units, either laterally, or in depth. For example, a scout car troop, with a portee horse troop, operating in an assigned zone, under the command of the senior commander, with a similar team of scout cars and portee cavalry in an adjacent zone, with the third team, composed of the motorcycle troop, and the third horse troop following the main axis of advance of the regiment, or favoring the more vulnerable flank.

All three teams can be reinforced by AT sections, P & D sections, under the present organization, and although this "set up" is schematic only, its basic thought of COOPERATION of horse and mechanized units is to me the obvious goal to seek, in handling these new organizations.

CAPABILITIES

New equipment, inexperienced drivers, strange officer personnel, and strange terrain, certainly do not give the best possible tests of capabilities of this organization. But perhaps such a combination does furnish a measurement which indicates potentialities, certain to be attained, and no doubt excelled, under favorable conditions. Hence the figures I now mention will not be an exaggeration. The regiment, on the march on good roads, can *maintain a road speed* of 35 miles per hour. It marched 191 miles the second day of the march to the maneuver area from Fort Oglethorpe, averaging close to 25 miles per hour for this distance. The mechanized squadron, on good roads, can march as a unit at speeds of 50 to 55 miles per hour, for fairly good distances. Such speed is not considered as advisable, but is certainly justified in an emergency. The horse squadron in portee, providing there are not many hills, or curves, can march at a road speed of 40 miles per hour on good roads. These figures were actually attained



Portee Cavalry

on the march to and from the maneuvers. No material troubles were encountered, so obviously small units of either horse or mechanized troops can equal and exceed these speeds. The prime movers of the portee squadron have a tank capacity of 40 gallons, and the average gas mileage was about 4 miles per gallon. All prime movers have been equipped with two additional 10 gallon cans, so that the range of action of this squadron with gas refilling may be taken as 250 miles. No attempt has been made to determine how far the squadron can move on one uninterrupted march. However it appears that if horses are watered and fed in the trailers, and the men are furnished either sandwiches or a cooked meal from the kitchen trucks accompanying the column, sufficient forage and gas can be taken along to permit the squadron to move 325 to 350 miles at one jump. Exercise of horses of course is an item to be considered, however I am of the opinion that the horses would stand a jaunt of this sort and be as ready for further use as if they had completed a 30 mile march. It was a revelation to me to see how quickly the horses fell in with this idea of having wheels under them. They coast along, heads down, quiet and relaxed, very shortly after they once get the experience. Occasionally there is a mild fracas, but after a few days these were conspicuous by their absence.

No figures are presented that differ materially from prior experiences on the mechanized squadron. Motorcycles have to be regassed approximately every 90 miles. Scout cars need a refill at about 200 miles. The mobility of the mechanized units is somewhat greater than the horse portee squadron, which is as it should be, but the portee units can move fast enough under average conditions to insure against slowing up the mechanized units. These mechanically potential speeds of operation will be subjected to considerable interference in a maneuver, and how much they can be utilized in combat is yet an unknown quantity.

The time length of the units of the regiment on the march may be of interest. These time distance figures can be used with safety. The mechanized squadron at 30 miles per hour, will be of six to six and a half minutes distance. The portee squadron averages, on good roads, about 8 minutes. The regiment, with trains, totalled less than 22 minutes at several instances during the march to Louisiana and return. The regiment, less trains, can normally clear a bivouac and be on the way in a single column in from 15 to 17 minutes. These figures are under average conditions. Local conditions of course cause considerable variation. At one bivouac area where the trailers broke through the crust, left from the recent floods, it was almost an hour before the column was formed and rolling along as desired.

The potential fire power of the regiment is impressive. The 1,088 men and 61 officers are armed with 286 caliber .30 machine guns, 119 caliber .50 machine guns, 259 Thompson sub-machine, 375 M-1 rifles, and 1,145 pistols. In addition to these lighter weapons, there are 6, 37-mm. antitank guns. The proportion of automatic weapons to personnel is one automatic weapon to 2.16 men. Unless all such weapons are fired from vehicles, it obviously would not be possible to use these 530 automatic weapons. The natural tendency resulting from this situation is to do just this. Under some conditions this tendency is of course sound. Under others, it will prove to be a costly use of vehicles. At first glance this proportion of weapons seems to be too great, the targets however are fleeting and the one man- one gun-car crew will give a maximum volume of fire for the short period. The regiment embodies *tremendous mobile fire power.*

Tactical Employment

The purpose of these new type cavalry regiments is inferred in their official designation as *Corps Reconnaissance Regiments,* now called Horse-Mechanized Regiments. A recent statement to the effect that the successful operation of a field force was a question of the "maneuver of large units," and that the successful decision was obtained by such maneuver, and not by the operation of small units relying upon small arms fire is questionable. The operaation of *"small" reconnaissance units* to permit INTELLIGENT decisions as a basis for maneuver of the large forces referred to, is of far more importance than ever before. The handling of these reconnaissance units so as to *insure pertinent information upon which to base intelligent maneuver of the major units of the Corps* is the primary mission of the new regiment. This mission then resolves itself into making the best use of the favorable characteristics of the new regiment, and avoiding, or neutralizing through training, and judicious use of its various elements, its unfavorable characteristics to meet the particular tactical situation, or particular terrain condition.

As to the mechanical details as to how this may be done, no specific formula will ever exist. In general, picture initially a *fast moving* mechanized advance in a broad front, from 50 to possibly 100 miles ahead of the major units of the Corps, and on the front dictated by the terrain features of the particular locality and the tactical dispositions, both of the friendly troops and the enemy. The mechanized advance will be by scout car platoons of the regiment, and will be as rapid as road conditions permit. It will continue to be rapid until contact is made —and there are going to be some casualties in the scout cars. However the element of time is so extremely critical that the advance, initially, must *not* be slow and cautious until *after* contact. The width of front will dictate initial dispositions. I believe that 20 miles is the maximum that a troop should expect to cover. If greater than this, two troops are needed, and if beyond 40 miles, additional units of suitable type must assist the regiment. Following up the mechanized advance; even as close as 7 to 10 miles, horse cavalry, portee, should push along the main routes of advance, ready to immediately detruck and assist the mechanized units when the need occurs. Of course any enemy will expect this mechanized advance, and have his front blocked. Scout cars *alone* may have serious trouble punching through to get to his main forces. Nothing is a better panacea for forcing a road block than horse soldiers. If they are seven miles back, this may mean that they are ready to get around the flanks and open the way in 25 minutes. But the scout cars should not look for a fight, unless there is no other way open. They should seek to sideslip, go around, in order to keep on going. If they do get by, and notify the nearest horse unit where the defended road block is, it would not be long until said road block is neutralized. Once near the main forces, scout car platoon leaders are faced with the most interesting military operation, and I cannot over emphasize the tremendous importance of training our younger leaders in this type work. Boldness will of course be immediately penalized, but just as immediate, reward will fall to the youngster who carries on properly. His cars cannot remain on roads, he cannot make any lengthy estimate of the situation, and delay his decision. He is faced with the same situation as the polo player against a smooth clicking opposing team. He must be ahead of the play at all times, and never have to gallop wildly to get up to the ball. It is split second work with caution combined with instantaneous decisions, AND ACTIONS. All our prior doctrines on reconnaissance apply. Contact gained must be maintained. Information must be sent in ample time to be of value to the higher commander, and the scout cars MUST NOT BE NEEDLESSLY expended. When our young leaders are constantly on the alert to have a "getaway" route, constantly watch their flanks, advance by bounds, keep hidden, keep off roads and use camouflage, and do not take needless risks, we will emerge with still a strong force available for the almost invariable mission of delaying any advance, which is so often the sequel to the reconnaissance phase. Variations of this general picture are to be expected. The mechanized squadron may be sent out alone in an advance, followed up by the horse squadron, but this will require some mechanized security detachments for the horse squadron. Again, the mechanized squadron may be on the exposed flank, or the most vulnerable flank, during the reconnaissance phase. Again some mechanized security elements will be necessary for attachment to the horse squadron. (Hence my leaning towards the tactical employment of the regiment in teams of mechanized and horse units. Coöperation of both horse and mechanized is thus automatically provided for, and will automatically actually occur.)

The future may see situations where the potentialities of the regiment are neutralized by higher commanders requiring local security for infantry masses from the regiment. This security to the Infantry units of the corps MUST be furnished by units other than the Corps reconnaissance regiment, certainly initially, if the regiment is to function as it should. The new Infantry Divisions should be able to police their own front yards, flanks and rear, without crippling the reconnaissance regiment. The latter will have all that it can do on its primary mission. In fact, many situations will arise when it necessarily must have assistance.

For example, if the enemy is known to be peculiarly sensitive to, and equipped to prevent, the operation of a mechanized reconnaissance such as described, it would be highly advisable to attach an increment of light or medium tanks to the regiment, sometimes artillery, sometimes infantry in force. Some people think that road blocks can be cracked by these units functioning with the teams, even faster than with horse units. Possibly true, if the tanks are used to *outflank* the defenders *by maneuver,* but I am not advocating, nor do I expect, that the medium or any other tank, will barge right down a road into a defended road block and wipe it out. Again, if road conditions are known to be very unfavorable, in advance of the operation, motorized engineers may advisably be attached.

AVIATION

Using aviation as directing agencies or direction finders saves many a weary mile and many important minutes. The observation units, preferably the slow speed small observation type, greatly simplify the intelligent operations of the reconnaissance teams. Road blocks whose location are known in advance do not present great difficulties to a mechanized advance. And when the general location of the enemy concentrations are known from the air, the regiment can, and very frequently will, not hesitate to move reconnaissance units well around to flanks, and the rear, to get the all important information desired. Where this general location otherwise is not known, it calls for a big dispersion of the smaller reconnaissance units initially. The importance of air protection to portee units is as yet an unknown item, but certainly should be furnished when feasible. The individual horse trailer looks like an ideal air target. But if marching intervals are kept at 100 to 150 yards, possibly it will not be so attractive, especially as each vehicle in the portee squadron is provided with an automatic weapon mounted ready to fire on aircraft. The size of trailer permits all riflemen to fire from vehicle; so the portee units are far from being helpless. The critical time is of course when loading and detrucking. Hence the suggestion, that when the regiment moves in portee, either on a tactical mission or on a strategic march, friendly air pursuit units whenever possible should be charged with the protection of the portee units, from hostile air attack.

So far in this general discussion on tactical employment of the regiment, my remarks have been confined to the initial phase of the operation, where the primary mission of the regiment is reconnaissance, and solely reconnaissance. Going on with our big picture, it can be expected that other missions will concurrently interpose themselves, and that eventually a portion of the regiment, or possibly all of it, will be given security and delaying missions. When this situation does arise, the tremendous fire power of the regiment will be given some real tests. During both of the recently completed maneuvers delaying missions frequently fell to units of the regiments. This type action with the small unit emulates "gangster" warfare at its worst. Our younger leaders must forget all thoughts of knightly warfare. They are out to do the nastiest job possible, with the greatest consideration for their own "hides." It is simply a case of hit—and hit hard —then run and hit again from another direction. In this type of action, anything goes. Tactics must be varied frequently, and the all important getaway and getting information back must always be kept uppermost in the mind of the leader. Men riding in vehicles where they are constantly under nervous strain soon lose their acuity of judgment. Vehicles do not tire of course, but servicing cannot be neglected. Once rested, the regiment is an ideal highly mobile, hard hitting reserve, with radius of action ample for any normal employment in furthering the success of the Corps. Flank and rear protection missions, harassing actions, exploitation of partial successes, wide encircling maneuvers may all be done. However in all such aggressive missions the regiment should still seek every opportunity to accomplish "stinging" warfare, keeping on the move, making quick sallies and *quicker* withdrawals, and avoiding until the last possible moment any attempt to barge ahead into known resistance. Surprise action should be sought. By using its mobility, its potential speed of operation, it should seek a "soft spot," even if it means a move of from 50 to 250 miles. Audacity of maneuver in the subsequent phases of action may well repay the Corps Commander who does not hesitate to send a *rested* regiment far away on a vital maneuver. A shift clear around rear areas from one flank to the other, or to the rear of the enemy, is an entirely feasible operation.

CONCLUSIONS

Here are some entirely personal thoughts, that may be called conclusions.

The first item: Scout cars are equipped with the heavy machine gun, and heavy tripod, yet are limited to crews of but four men. During the spring maneuvers I witnessed one little action where a section of scout cars observed an advancing motorized infantry column, and executed a delaying action against it by dismounting their *heavy* guns and using the ground mounts. Undoubtedly they would have raised havoc with the column, but it was just as apparent that the entire unit would have been captured. I believe that the light machine gun, and light tripod, is the proper equipment. For combat I would use the light gun, and I am fully confident based on experience that I would do every job just as well, in most instances better, *and* I would have far more cars, men, and weapons, still in the fight, than if I had to use guns and tripods.

A second item: The advisability of utilizing smoke in the mechanized squadron. During the last maneuver all vehicles of the squadron carried smoke candles and they proved to be of considerable value in the final action. The present candle is effective, but has the drawback of continuing on to complete expenditure, once it is lit. This takes about eight minutes, and can be quite a boomerang. What is desired, is a smoke producing device that can be turned on, AND OFF, as needed.

A third item: is the need of a weapon for neutralization of personnel defending road blocks. Machine gun fire is not the best panacea for this. The 60-mm. mortar is light in weight, has good range, is accurate, and one or two hits at or near a 37-mm. gun will quiet it down nicely. I would like to see a fifth scout car in each platoon of the scout car troops, carrying eight men (including a driver), all armed with the M-1 rifle, and the car carrying a 60-mm. mortar. With this addition, a defended road block would not be the menace it is at present.

I can not omit mentioning the tremendous problem of training this new regiment. Normal garrison duty of course can cover the important phases of *individual* training, but to handle this "big picture" organization, as a unit, requires many and many a square mile. It calls for travel on widespread road nets, big picture background, long distances, speed of operation, coördination and *timing* of unit actions. But throughout all this, the tremendous importance of the intelligent functioning of the small unit leader stands out as an absolute necessity. He must not hesitate to use initiative. Things move too fast, and at too great a distance, for great reliance on advice, or instructions from higher headquarters. There is no room for the inexperienced, untrained platoon leader, if the regiment is to "click," in combat, or in maneuvers. Hence the urgent necessity for further big picture training, if we are to fulfill what in my mind is the most important mission, initially, namely furnishing information to the Corps Commander in ample time for him to INTELLIGENTLY DIRECT THE MANEUVER OF HIS LARGE MASSES.

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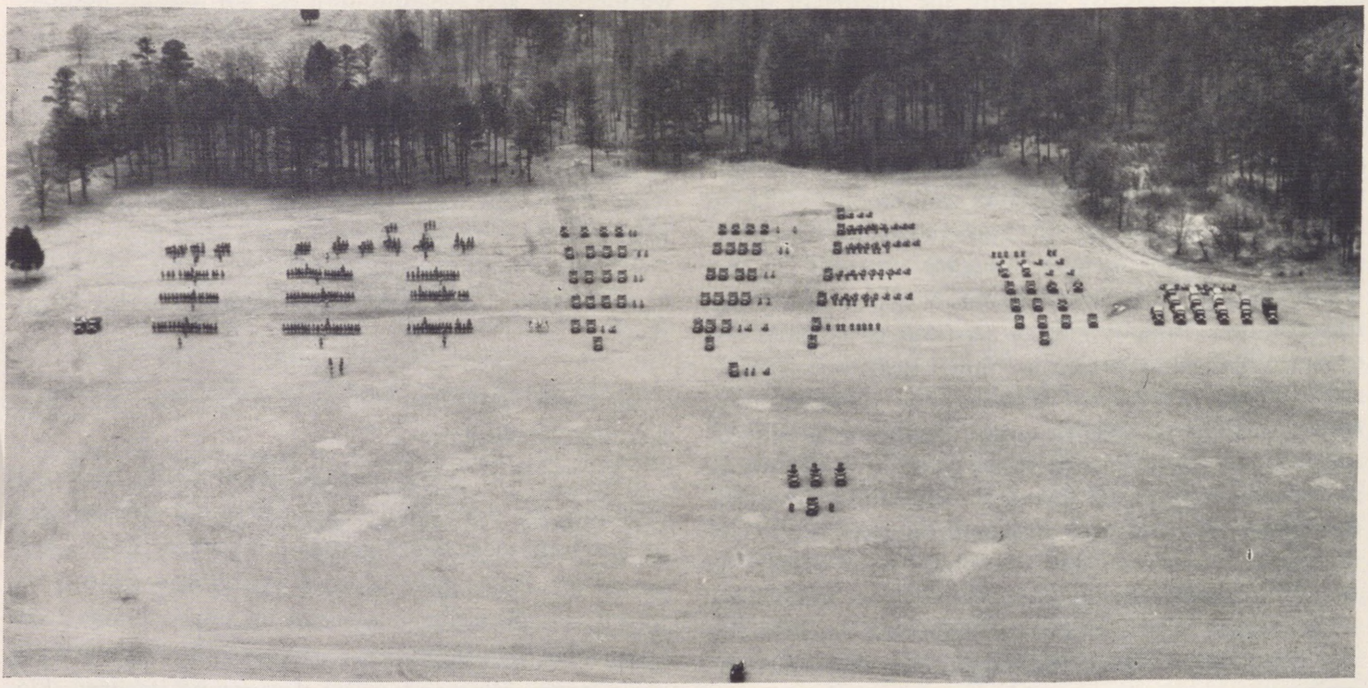

Review of 6th Cavalry—over 1,100 officers and men. Front left: Motorized Band, 1st Squadron, 2d Squadron, Headquarters Troop, Service Troop (less detachments).

Notes From the Cavalry Board

"The Cavalry Board invites any individual, whether or not a cavalryman, to submit for consideration constructive suggestions or ideas relating to new equipment, improvement of standard equipment, or to any problem or project under study by the Board. The Board will also welcome suggestions as to new problems that may properly be considered. Communications should be addressed to the President, Cavalry Board, Fort Riley, Kansas."

Changes in Personnel. — Recent orders have been received assigning Colonel Robert C. Rodgers,* Cavalry, as Director, The Cavalry Board, from command of the Fourth Cavalry Fort Meade, South Dakota. Lt. Colonel Harold G. Holt, Cavalry, has joined the Cavalry Board for temporary duty in connection with revision of Field Manual 2-5, Horse Cavalry. Captain Charles H. Valentine, Cavalry, reported for duty with the Cavalry Board, August 1, 1940.

Revision of Field Manuals and Mobilization Training Programs.—Primary attention has been given to the revision and completion of field manuals and mobilization training programs. These are especially important at this time in view of the anticipated expansion program for the army. In this respect every effort is being made to keep both manuals and training programs up to date. Data compiled from reports of recent maneuvers are being studied. Lt. Colonel Harold G. Holt, Fourth Cavalry, has been detailed on temporary duty with the board as a representative of the new horse-mechanized regiments, to assist in the preparation of that part of the manual dealing with these special regiments.

Strip Films for ROTC Units.—The Cavalry Board has recently begun work on a project to prepare strip film material for cavalry subjects taught in ROTC units.

Combined M-1 Rifle and Pistol Arms Rack.—A new combined rifle and pistol arms rack has been received for test. It is designed to hold twenty pistols and twenty M-1 rifles. The pistol rack is attached to the frame of the rifle rack between two rows of rifles, and pistols may be removed from it from either end without removing the rifles. Expressions of opinion from the cavalry service in general as to the need of such article of equipment will be welcomed.

Horse Gas Mask, Canister Type.—A new horse gas mask of canister type has been tested and report thereon has been made. This mask was a new design using the principle of attaching breathing tubes directly to the nostrils of the horse. It was the first horse gas mask of which it could be said definitely that a perfect gas-tight seal could be obtained. It was considered impracticable in a number of respects, however, and in the near future, another type of gas mask is expected for test. While the value of horse gas masks tactically remains undetermined, it is felt that unless, and until it is proven to be unprofitable from a tactical point of view, every effort should be made to continue research and development along this line.

Test Model Tripods.—The Cavalry Board has recently completed a test of an experimental machine gun tripod, T-43. Constructed largely of an aluminum alloy, this tripod is considerably lighter in weight than the tripod mount, M1917A1. It has a disadvantage for cavalry in that the cradle is fixed to the gun with belts and as a result cannot be readily packed. A second experimental tripod has been received for test. This tripod may be equipped with a cradle similar to the present standard cradle on the tripod mount, M1917A1, or a cradle similar to that pertaining to the tripod mount, T-43. The tripod was originally designed to mount the Browning Automatic Rifle. The purpose of the test, which is now in progress, is to determine whether the tripod is suitable to replace either or both the heavy machine gun or light machine gun tripod.

Magazines for Automatic Pistol, Caliber .45, M1911.—The Cavalry Board has recently completed a service test of a new type magazine for the Pistol, Automatic, Caliber .45, M1911. Although in appearance this magazine is the same as the present standard magazine, it appears to be greatly superior. During the period of the test which included a marksmanship season, drill, several field exercises and maneuvers, not a single malfunction of the pistol could be attributed to the magazine.

Rope Halters.—The Cavalry Board has recently completed a service test on two rope halters, one constructed of 3/8-inch white cotton woven cord, and the other of 7/16-inch cord of the same type. Both halters were considered unsuitable for cavalry service due to the fact that they are very readily affected by damp or dry weather—either draw up or stretch, and they twist easily and rub the horse. It is believed that the present halter in use, supplemented by the web halter if necessary, is most satisfactory.

Army Extension Courses.—The Cavalry Board has prepared during the past month Army Extension Sub-

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*Since promoted to Brigadier General, Commandant, The Cavalry School.

Course 40-3, "Cavalry Troop, Rifle, Horse." This course consists of seven lessons and is designed to teach the general principles for the employment of the cavalry rifle troop, horse.

In addition to those mentioned above, the following projects are undergoing test or study:

Small bore practice in Caliber .50 Machine Gun Training.
Soldiers Handbook.
Antitank Weapon (37-MM Antitank Gun, M-3).
Pull-type Single Shot Auto-fire Trigger Mechanism for Browning Machine Gun, Caliber .50, M2, HB.
Light Barrel for Machine Gun, Caliber .30, M1919A4.
Improvised Emergency Machine Gun Mount for Train Defense for use pending Development of Standard Mount.
Bullet Seal Inner Tubes.
Cleaning Staff, M3, for 60-MM Mortar.
81-MM Mortar Pack.
81-MM Mortar Carriage, T-3, Brandt Type.
Grenades, for use by Cavalry.
Development of New Vehicles for Cavalry.
Equipment for Motorcyclists.
Low Quarter Shoes.
Modification of Horse Equipment (bridles, bits, horse covers, stirrups, and stirrup straps).
Radio Needs for Cavalry.
Radio Contact Code.
New Type Headgear for Enlisted Men and Officers.

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New Mounting for Light Machine Guns Developed at Fort Clark★

A RADICALLY changed Light Machine Gun mount especially designed for fast moving objects and antiaircraft fire, is in its experimental stage of design and testing. Lieutenant D. W. Kaspervik, Cavalry-Reserve, now on extended active duty with the 5th Cavalry is the inventor. To quote Lieutenant Kaspervik, "I am interested only in having a mount for the L.M.G., which will enable the gun to be used effectively against aircraft, mechanization and ground troops, in any cover or any type terrain."

The mount, as seen in action in the accompanying photographs, consists of one 42-inch, 2-inch water pipe. One end has a sharp point for sticking in rock crevices, base of mesquite trees, or it may be driven into the ground. The other end has a flange from an old tripod. The cradle fitting is made of a pintle bushing, two No. 5 horseshoes reshaped and a bolt which passes through the gun pintle leaving the light gun free to swing to any desired angle, from straight down to straight up and a full 360 degrees horizontally. The weight is about *15 pounds,* making it possible for one man to carry gun and mounting assembled, ready for instant action or the pod can be driven into a predetermined place in a thicket and the gun moved in when needed. With the low cost of construction several alternate positions can be maintained thereby making the gun even more mobile.

During recent moving target practice, Lieutenant Kaspervik reports 65% hits at varying speeds, firing a greater number of bursts than required in the moving target course, and others in his troop had greatly improved scores. This is a great improvement over the heretofore averages of 35 to 40% hits at the same targets. The local terrain consists of rocky uneven ground, high grass, and low-growing chapperal, making a low tripod difficult to handle effectively as well as the usual difficulty of overhead firing ability for antiaircraft.

Specifically the improvement consists of:

a. ***Costs,*** about $10.00 each, as against $70.80 for light machine gun tripod.
b. Weight about 15 pounds which can be lessened by use of alloy and possibly of telescoping two pipes.
c. One man can handle, though two are preferred.
d. Several alternate positions can be maintained for use at road blocks, etc.
e. Maneuverability for moving targets, whether horses, motor, or airplane.
f. Height above low lying brush, yet reasonably concealable.
g. Speed in getting into action, is as fast as the man carrying the gun.

Material:

(1) Piece 2″ pipe 42 inches long—pod.
(2) Two pieces 14″ x 3/8″ scrap iron } —Cradle.
(3) L.M.G. pintle and bushing }
(4) One piece 2½″, ½″ pipe for spreader sleeve.

★EDITOR'S NOTE: *This is presented in order to provoke thought and discussion of this subject.*

(5) Two ½″ x 4½″ bolts with nuts and locknuts to fit.

Construction:

Pod:

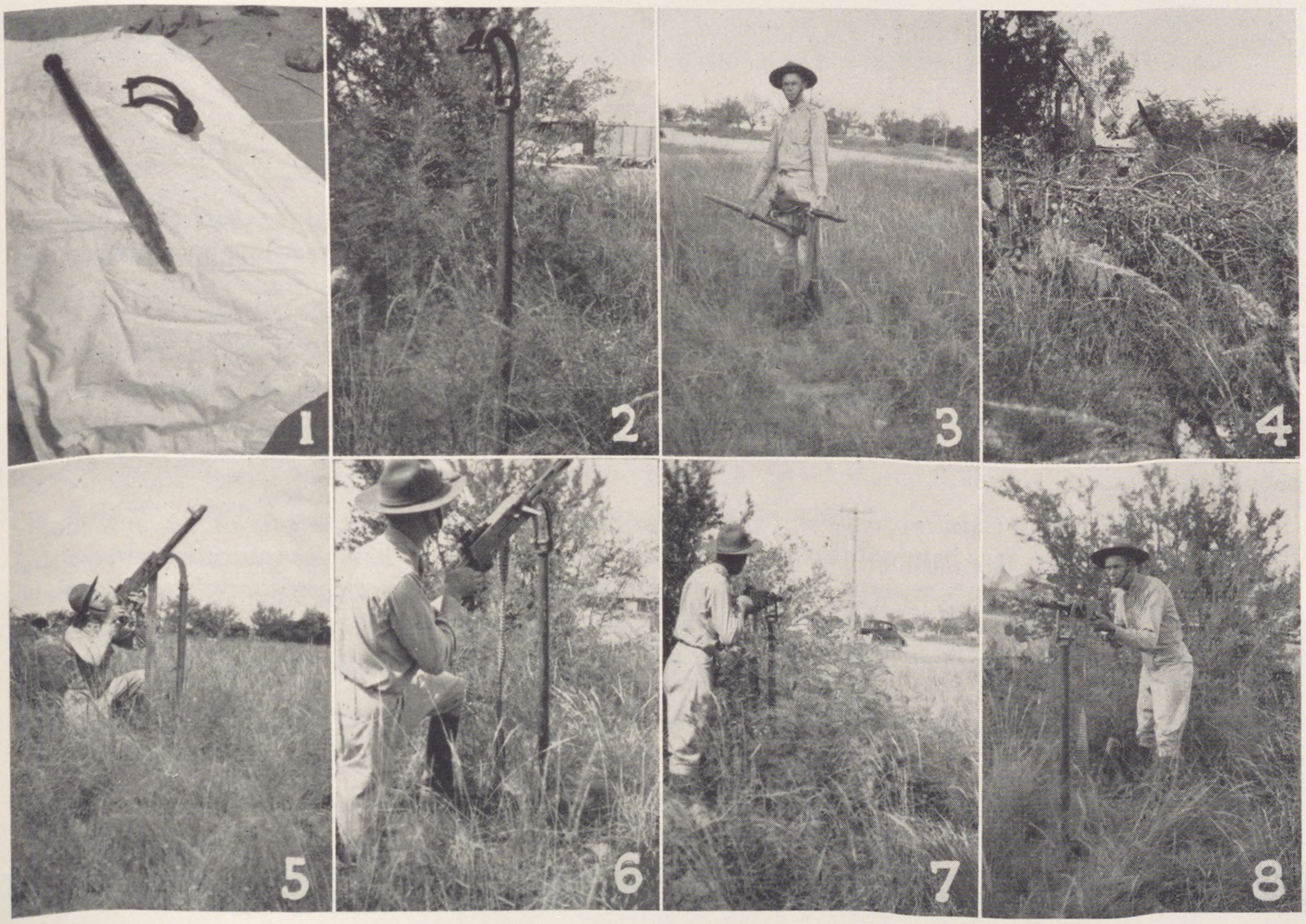
(1) 42″ x 2″ pipe sharpened at one end. L.M.G. pintle bushing welded into the other end.

(2) Cradle—L.M.G. pintle with two pieces of 14″ — ⅜″ x ¾″ scrap iron bent to 6″ arc and allowing a 2″ on the outside. Bolts are used for the connection of the cradle to the L.M.G., pintle housing.

Fins at the base of the pod can be used to stabilize the mounting when used in semi-permanent positions.

Consideration is now being given to combining this new development with the present light machine gun tripod to prevent possible creeping. Experiments as to correct height of the pod in various situations and methods of telescoping are in progress.

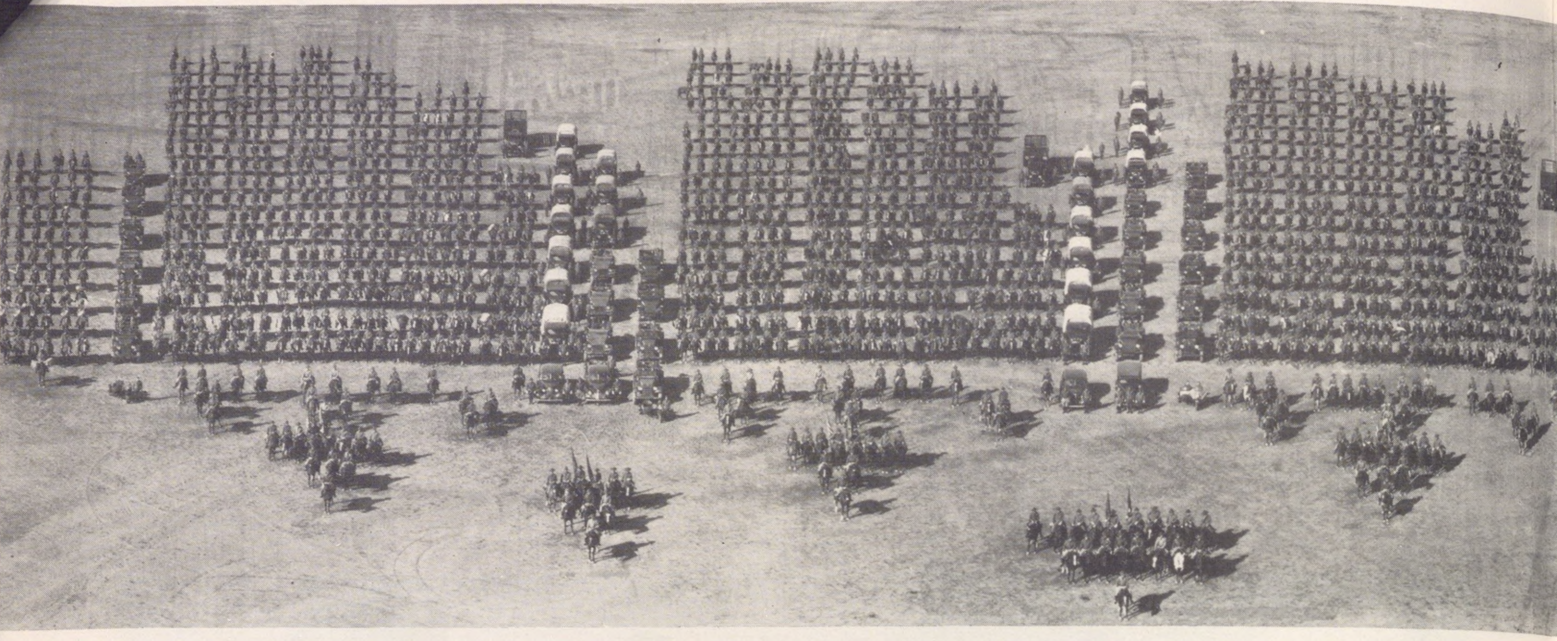
All together, the 5th Cavalry and especially those in "F" Troop, are highly in favor of this new addition to existing armament.



ILLUSTRATING USE OF KASPERVIK MOUNT

1—Equipment. 2—Mount assembled. 3—Easily handled. 4—Any desired angle. 5—360° traverse. 6—Antiaircraft. 7—Fleeting targets. 8—Brush clearance.

PICTORIAL CONCEPTIO



A CAVALRY CORPS

The War Department has announced that the Regular Army horse cavalry (exclusive of corps cavalry and the 9th and 10th regiments), now existent in the United States will constitute two cavalry divisions. *The Chief of Cavalry believes that these two divisions should comprise a Cavalry Corps.*

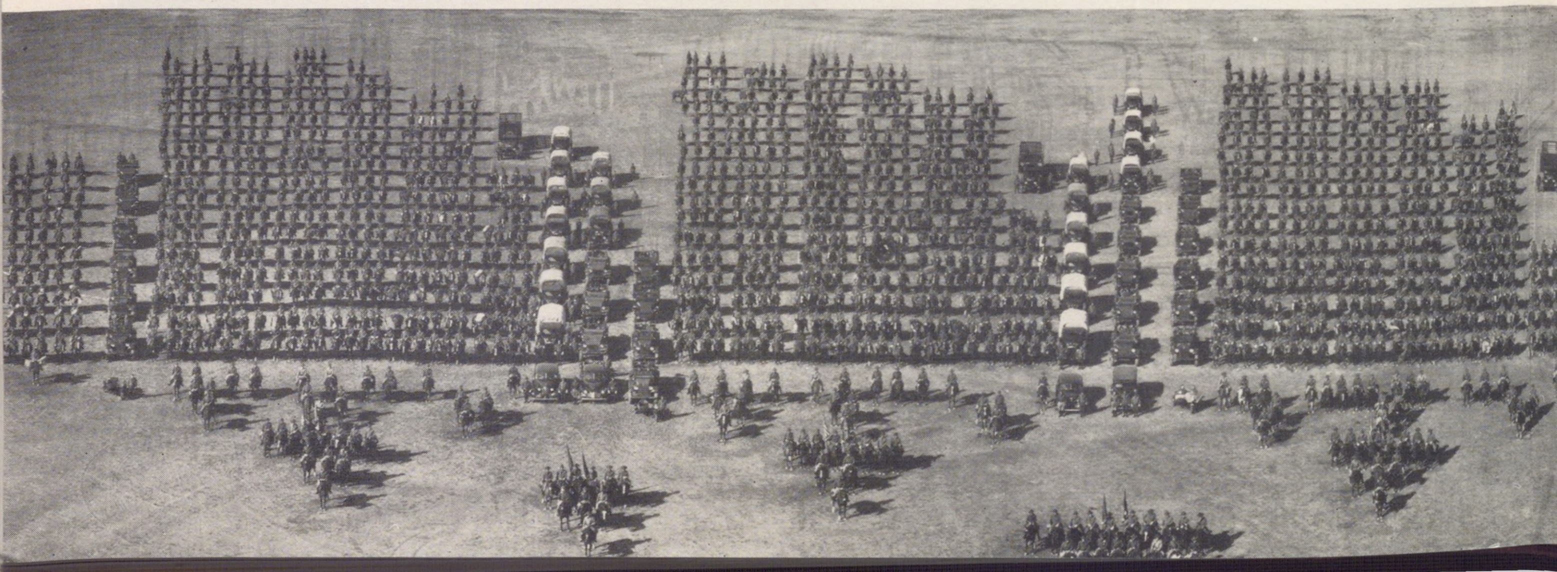
The horse cavalry divisions pictured top and bottom are at approximately one-third full strength. Note the many motorized and mechanized elements, even in the so-called horse division. Should these divisions be grouped as a cavalry corps, at least a corps headquarters troop and a corps signal troop, both motorized (not shown) would be required; and for particular operations certain additional elements such as air units, medium artillery, antiaircraft, and antimechanization units and necessary services should be attached.

In addition to the *Cavalry Corps* and the authorized *Corps Cavalry Regiments* of the new mechanized and portee type, it is believed that each triangular division should have, organically, a *reconnaissance squadron,* to include a reconnaissance troop composed of scout cars and motorcycles and one rifle troop, horse portee; and each square division, an organic reconnaissance horse troop.

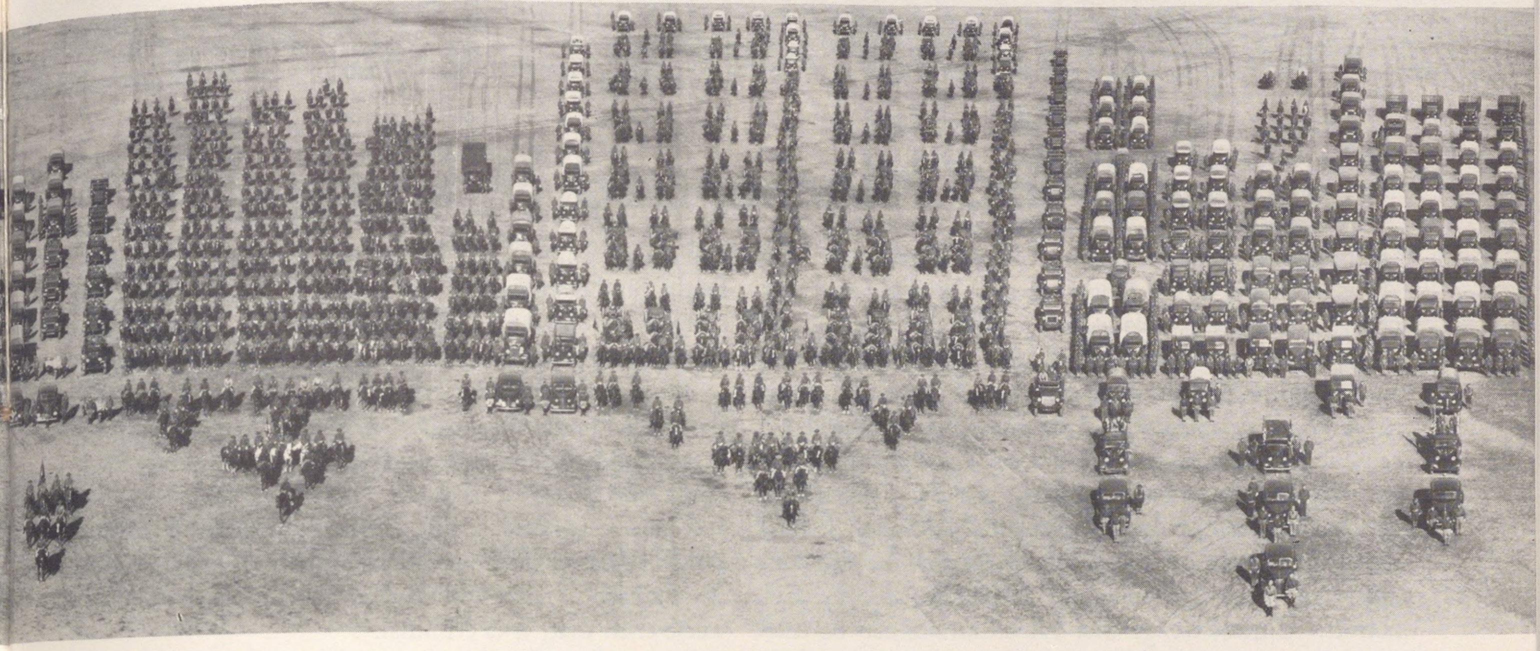
"If one could only be acquainted beforehand with the enemy's designs, it would always be possible to defeat him, even with an inferior force."

An essential in the defense or offense against mechanization is the timely procurement of pertinent information.

Reconnaissance should be unceasing—relentless!



OF A CAVALRY CORPS



A MOBILE FIELD ARMY?

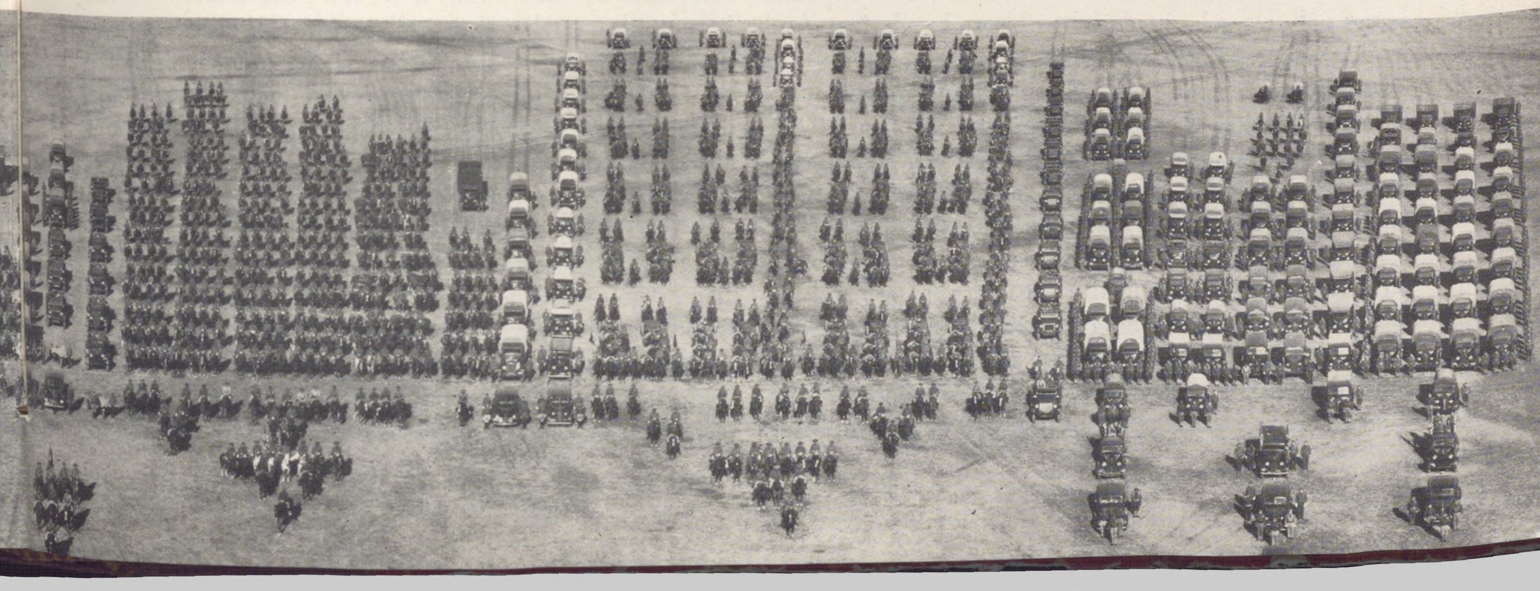
The First Armored Corps, of two armored divisions, now is in process of organization; with a second armored corps, of two divisions, projected for the immediate future.

It is readily conceivable that in the *Western Hemisphere,* situations probably might arise wherein a combat force of great potential battlefield maneuverability over varied terrain will be required.

The powers and limitations of horse and mechanized cavalry complement each other; and since corps organization is flexible and may be composed of two or more divisions and corps troops, a cavalry corps for a specific operation may be one of two horse divisions; or two armored divisions; or two horse divisions and one armored division or brigade; or two armored divisions and one horse division, etc.

To be immediately effective, therefore, it would seem logical to organize these projected three corps into a *highly mobile field army.* In the event of national emergency, such a field army supported by combat aviation, obviously, would be invaluable in initially covering the concentration of our present four field armies, and in providing the necessary distant ground reconnaissance. Later, as a mobile reserve, such a field force would be a weapon of opportunity for such additional cavalry missions as exploitation, offensive and defensive combat, and pursuit operations.

Why not, a mobile field army?



General Hawkins' Notes

Air and Mechanized Warfare

THE most stupid form of warfare ever devised by man is now in full swing between England and Germany. It is the airplane war so long predicted and almost hailed as an accomplishment of the human race and a sign of modern progress. In reality, it should be deplored as an invention of the devil. It is stupid because it is merely destructive and, as between two powerful nations, accomplishes nothing but the prolongation of war. It is not a decisive element. Although it does assist armies and navies, it cannot of itself bring about quick victory and short wars. It merely adds to their horrors. Unless strong, well-trained armies can be used in conjunction with airplane warfare no decisive result can be obtained.

It is devilish because it is waged principally against noncombatant men, women and children, and sets back to an alarming degree all the ideas of honor, chivalry, mercy, and compassion for suffering that the world has set up and been struggling for throughout the ages. It is devilish because it permits a strong and aggressive nation to reach and persecute weaker nations even though it cannot conquer them.

All the bombing of Madrid did little to aid the final victory of General Franco's armies. All the bombing of Chinese cities has had little effect in the military campaign in China. All the bombing of England by the Germans will result only in retaliation by similar means, but it will not bring victory or peace. Women and children have been killed by the hundreds in Spain, probably by the thousands in China, and now are being killed or maimed in England and Germany. It serves only to create ferocious and beast-like hatred between the peoples of warring nations, and its stirs courageous and stubborn peoples to more determined efforts to resist and to hate to the bitter end.

War is bad enough at best, but the use of airplanes serves only to make it more horrible and enduring. And its destructive effects, not only upon dwellings and works of art but also upon modern utilities and sanitary constructions, endangers the health and morals of the world.

Man being what he is, aggressive nations will always from time to time, attempt to dominate or overthrow others. Peaceful nations must fight to protect themselves from extermination, but the advent of the airplane extends the probability and the possibility of war and decreases the chances of more prolonged periods of peace.

From a professional military standpoint, we must recognize that if those nations which are in the future most likely to attack us are heavily armed with military airplanes, we must have them also. Although no decisive results can be obtained by the use of airplanes alone, they do give certain advantages to the army or navy that possesses them if their opponents do not possess them.

The famous Douhet theory that wars can be won in the air, without the use of armies and navies, except in very secondary rôles, is already proved to be merely fantastic.

It can be asserted again, therefore, that the use of airplanes alone for land operations in war, except purely as an auxiliary to other military forces, is a gross stupidity; worse than that, it is criminal.

Germany's military successes have been won by her ground armies assisted by her air force. She has conquered eight different nations. She is attempting to conquer England also. At present she is attempting to bring England to peace terms by attacking with air force alone. To be sure, she is attempting to sink English shipping, but this should be classed as sea operations. Her land operations are, for the moment, confined to airplane attacks. England's land operations are, for the moment, confined to retaliation for these attacks principally by the use of her air forces. Whoever may be responsible for it, we have, therefore, an airplane war which, so far as land operations are concerned, is futile. Neither opponent can conquer the other by means of such warfare. Germany can conquer England only if she succeeds in invading England with ground troops and in defeating English ground troops. The British navy may prevent this, or, if not, the British army in England may prevent it by defeating the German army in England. Germany will never conquer England by air force alone, however, and vice versa.

We may be sure that, although we might be harassed and distressed by an enemy air force, we could not be conquered by such means if we have the courage to stick it out and to retaliate by similar means. If an enemy succeeds, however, by any means whatsoever, in invading our land with an overpowering army, including air force, it will be another matter. Our navy might prevent it; but air force alone will not protect us any more than enemy air force alone will conquer us.

If we are harassed and distressed by enemy air force, the only thing we can do to stop it is to use our army and navy to go to the enemy and either defeat him in his own land or drive him away from such bases as he may have procured for such air force operations. The mere use of our own air force might induce the enemy after a while to cease his annoying operations, but it would not punish him severely for his attack upon us. Nor would the use of air force alone prevent an enemy from invading our shores or procuring bases from which to annoy us with airplane bombings.

To be prepared to engage an enemy in an airplane war only, would be stupid beyond words. Furthermore, airplane warfare alone has been indecisive not only in land operations, but in sea operations as well. Many persons predicted at the time of the English and Italian dispute over the invasion of Ethiopia that, if war came, the Italian air force would drive the English navy out of the Mediterranean or sink it. The same persons predicted that the overwhelming German air force would destroy the British navy in this present war. The combined effort, however, of the German and Italian air forces and submarine boats, reinforced by a few battleships and cruisers, has not reduced the strength of the British navy materially in a year of warfare.

The same thing may be said in a different way about the use of mechanized force alone in land operations of war. Mechanized warfare alone would not, of course, bring about the horrors nor the crimes referred to in considering airplane warfare alone, but it would be signally futile for military reasons. No enemy of ours would be so foolish as to rely on mechanization alone, even if supported by air force. In land operations, mechanization, like air force, is only an auxiliary to the main ground forces. It is important, very important, but it is only one part of the army. Yet it has been proposed, by persons who have visualized in the European war nothing but mechanization and airplanes, to have our ground army composed almost exclusively of some twenty-five divisions of mechanized troops. It has been said in high places, also, that the war in France was not a rifle war but purely a mechanized war. Yet the Germans had considerably more than 200 infantry divisions and only 12 mechanized divisions. In the fighting in France the Germans employed at least 180 purely infantry divisions. One would conclude that rifles had something to do with it.

The Germans knew well what the armament of the French army was. They knew that the French did not have the proper kind of antitank guns and that their antitank units were not properly organized or in sufficient numbers; therefore, the Germans took advantage of a special situation to make use of their mechanized divisions.

The rigid censorship in France led us to believe that the French army was thoroughly equipped to meet tank attacks and that the northern extension of the Maginot Line was as strong as the short Maginot Line itself. No unfavorable comments as to equipment or armament of any kind was allowed to appear. Consequently, not only the French people were deceived, but our people in America were also unprepared for the sudden and remarkable success of the Germans.

It is inconceivable that the Germans will not develop antitank guns that can be very mobile and yet have the ballistic qualities to put light and medium tanks out of business. We could do the same thing. With sufficient organized battalions of these guns in each infantry and cavalry division, it is easy to believe that the craze for tanks would be somewhat subdued. Perhaps the Germans know this, and when their enemies have outdone themselves in equipping their armies with mechanized divisions they may find that the Germans have given them up except for special purposes like the counterattack.

At any rate, despite the opinions of those who assert that the rifle has played a small part in the war, the German victories over the Allies appear to have been effected quite as much by overwhelming numbers of infantry divisions as by mechanized troops. The two worked in coöperation with each other. Sole reliance on one alone would not have produced such excellent results.

When the Allied mechanized troops attacked the German infantry, they were unsuccessful; so the Germans must already have found the answer in the form of guns. Although mechanization has come to stay we could easily carry out this form of armament too far.

Motorized infantry divisions have also come to stay, but this expedient must also have its limitations. Long columns of motorized infantry are surely good targets for enemy airplanes. In France the air force of the French was very inadequate, and the German motorized infantry was hardly even molested by air attacks. The absence of strong forces of Allied cavalry contributed also very materially to the comfort of German motorized troops. We must not confine ourselves to mechanized and motorized infantry divisions. The greater number of our infantry divisions must be composed of marching infantry and probably horse drawn artillery.

It seems strange that it should be necessary to emphasize again, as has been done in these Notes, that an army cannot afford to be deficient in any arm whatsoever. The consequences of defeat are too terrible. What difference does it make that in some one campaign a certain arm seems to have been paramount? It will be different in the next campaign. Although the answer to mechanization may be found in the next campaign, this does not mean that we should discard it. It has come to stay. An adequate defense may be found against attack from the air; but air force has come to stay. The old infantry arm will always stay. Cavalry has been discarded by some nations in Europe much to their harm, but cavalry is as necessary as ever before. It is only the kind of cavalry that should be changed. Cavalry is composed mostly of horsemen. In my opinion, if it is mechanized, it is not cavalry; it then becomes mechanized troops. It is the armament of cavalry and its tactics that must be changed from time to time. If we discard it wholly we lose its very special advantages—and the army cannot afford to lose those advantages.

We must have *everything* and not run headlong towards one particular arm because a special campaign in Europe emphasized the use of that particular arm. We might as well run headlong over a precipice!

26th Cavalry Fires at Moving Water-Targets

By

Lieutenant Colonel Heywood S. Dodd

and

Lieutenant Ralph E. Haines, Jr.

FIRING at moving water-targets is a novel experience for most cavalrymen, yet this is part of the 26th Cavalry's training program every year.

The 26th Cavalry, under command of Colonel Robert Blaine, made the sixty-mile trip from Fort Stotsenburg to Subic Bay, where the regiment received training in firing on towed water-targets, with the Light Machine Guns, the Heavy Machine Guns, and also the .50 Caliber machine guns under various and difficult conditions.

THE TARGETS

The targets were constructed so as to form as little water resistance as possible. A target was made of 3 boards 20″ x 2½″, these were placed on edge, four feet apart; held together by two 2″ x 4″s, one at each end and two 2″ x 4″ nailed diagonally from end to end. Additional slats were nailed between the 2″ by 12″s for the scorers to stand on when marking targets. The middle board supported a target frame 6′0″ x 4′0″. The sides of the frames were extended to form legs, held in place by chocks on the middle board. The frames were covered with salvaged canvas. Canvas was nailed to frame with staples over a wire, in order that canvas could be easily changed. It was necessary to change the canvas each day after firing.

Material needed for 6 targets:

24 boards—20″ x 12′ x 12½″.
12 boards—25′ x 1″ x 4 ″. Does not include frame.
12 boards—12′ x 2″ x 4 ″.

Four targets were originally towed in tandem at twenty-five yards distance; later this number was increased to six. The first of the line of targets was towed about 300 yards from the tug. Five hundred yards of ¾″ rope was used to tow the targets. A coal burning tug, together with her crew of 3 men was loaned by the Navy. The tug had a speed of 5½ miles an hour when towing the targets.

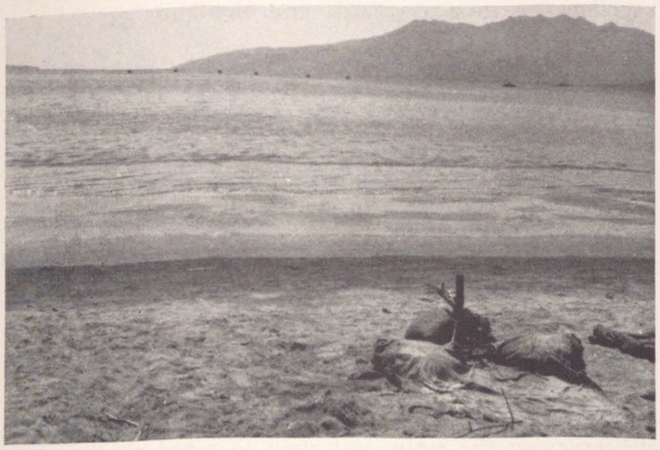
A banca (native canoe with outriggers) was hired locally for the purpose of marking targets. It was manned by a crew of three, 2 paddlers and a scorer. The banca was towed by the tug and cast loose to mark targets at the completion of the run. The scorer marked the hits on the targets circling them with an indelible pencil.

It was necessary to float the towing rope of the targets with strips of bamboo, wired to the rope at about 50 yards intervals. This was done in order to keep the rope from sinking and snagging on the corral reefs. The rope between the targets was floated in the same manner.

In general the targets were towed directly across the line of fire at ranges of 750 to 2,500 yards, though many oblique runs were made. The runs took approximately five minutes, the 180 degree turns about two minutes,

Targets and bancas on the beach

Banca leaving tug to mark targets



Tug towing targets at 1,200 yards

and the marking from ten to twenty-five minutes, depending on the roughness of the seas. Marking was done at the end of each run or at the end of every other run, depending on the number of men firing and the amount of ammunition that was available. A radio was mounted on the tug which relayed the results of the runs together with the pertinent remarks concerning same directly to the firing line. Observers on the boat could see tracers from the side very readily and note the length of the beaten zones of the water.

Gun Practice

The guns were fired from a sandy beach about ten yards above water. T bases and sandbags were used presuming a deliberate, prepared defense. No emplacements were dug and no attempt at camouflage was made. A certain amount of overhead cover in the form of trees along the beach was utilized, chiefly for protection against the sun. Despite the above, observers on board the tug, one thousand yards out, could not see any of the guns nor detect their muzzle flash when firing. However, the line of the tracers could be seen. The sound of the firing was especially deceptive to the observers on the tug; the acoustics of the saucer shaped bay made the firing point seem approximately three hundred yards up the beach from where it actually was. When tracers were not used, the guns could not be located 1,000 yards from the beach.

The Light Machine Gun was fired "single shot" and relaid after each shot. Experiments were conducted with "milking the trigger" for a single shot "burst of five" without relaying, results indicated the first method above was preferable for targets moving laterally across the line of fire at short ranges, however, for ranges over 1,200 yards it is thought the latter method is preferable. The rear sight is the old Browning Machine Rifle sight, converted. For ranges greater than 750 yards the book says that the sight setting should be reduced from 50 to 75 yards below the actual range, however, above 1,200 yards this figure by actual firing was nearer a 100 yards. The highest figure on the sight is 1,500 yards, the sight can be set 3 clicks beyond this figure. Due to the above, the sight can actually be used to approximately 1,700 yards. Observation of strike, firing single round, was excellent up to 1,000 yards, even with a choppy sea and a glaring light. The upper leading corner of the target afforded a definite aiming point, since it was never obscured by waves. It was possible to set off the complete lead on the windage scale, varying from one to three points, depending on the range (more, of course, if there was a following wind). Initial firing data was obtained from a range finder or estimated. Thereafter an observer equipped with field glasses made the necessary changes in range and deflection. The guns were fired with a loose traversing clamp. The gunner traversed a short distance ahead of the target and fired the instant the target appeared in his sights. Several troop commanders required their gunners to commence firing with a deliberately false sight setting, to give the observers more practice in adjustment of fire. If the range was incorrect the observer had his choice of announcing a new range or saying "up (down) so many mils."

In either case, the gunner set the new range or his sights (using the mil click detent device in case the change was announced in mils) and relaid, using his original aiming point. If the lead proved incorrect, the observer ordered additional (less) windage. This method of using the same aiming point throughout is believed the most effecacious against slowly moving targets, where constant adjustment and correction of fire can be made. When the elevating handwheel only was used for changes in ranges, the target was lost out of the sights after a change of as little as four mils at close ranges.

In the observation of fire, it was found that at all ranges, if only the upper half of the strike splash was observed over the target, the shot was generally a hit. Nevertheless, "overs" were often a bit deceptive and it was found best to come down one or two mils every tenth shot to get a "short" in order to keep the target bracketed and avoid firing a monotonous string of "overs." The Light Machine Gun was found extremely accurate at 750 yards, moderately accurate at 1,000 yards, and rather effective at 1,500 yards. All guns were fired at a slow rate of fire (from 10 to 15 rounds per minute) to conserve ammunition and to allow the observers ample time in which to make corrections. The percentage of hits to rounds fired was 45% at 750 yards, 28% at 1,000 yards, and 7% at 1,500 yards. These percentages mean little, however, since the governing factor in testing the efficiency of any weapon is the number of hits per unit time—assuming of course an ample supply of ammunition. Expressed thusly, there were seven hits per minute on each target at 750 yards, four hits per minute at 1,000 yards, and one hit every two minutes at 1,500 yards.

The heavy water cooled guns were fired using the same basic principles as for the light gun. The Heavy Machine Guns furnished to the rifle troops are mounted on a pintle, old type, whereas those in the Machine Gun Troop are equipped with the modern cradle. The Heavy

Machine Guns of the rifle troops were fired either with a slightly sticky traversing clamp or a swinging traverse. In firing with sticky traversing clamp, the gun was tapped until the line of sight was in front of the target, while firing with the swinging traverse, the gun was traversed by the gunner pressing on the pistol grip until the line of sight was in same position. The guns of the Machine Gun Troop were generally traversed with the traversing handwheel, however, the sticky traversing clamps were also tried. The gunners fired bursts of four to six rounds until approximately on the target and thereafter bursts of eight to ten rounds. Rather than attempt to follow the target smoothly they generally lay in front of the target and let it come into their sights with a possible last second change with the elevating handwheel. Both traversing while fire and "riding the gun" caused undue dispersion with the guns of the Machine Gun Troop, it was found entirely possible to follow the target using the traversing handwheel, though it was necessary to spin the wheel rapidly back when the limit of traverse was reached, unclamp, the traversing clamp, and relay.

This caused periodic lapses in firing, and while it was slightly more effective in percentage of hits to rounds fired than the "sticky" traversing clamp method, it was also less effective in number of hits per minute. Old barrels were used in the Heavy Machine Guns which caused the beaten zone to be much longer than the book figures. In addition, the observers were not sufficiently well trained in depth deception to put the center of the beaten zone on the target at ranges of 2,000 and over which was absolutely necessary to get any hits because of the large angle of fall. A perfect burst of 6 at 2,000 yards was one with three overs and three shorts—in which case one or two of the overs usually went through the target. However, at 2,000 yards or over it is better to fire bursts of ten. At 1,500 yards it was found that a maximum number of hits was obtained from a burst of six when one or two shots fell short. At 1,000 yards, only one short shot in a burst of six was considered perfect and that short often ricocheted into the target. (About 8% of all recorded hits were richochets at 1,000 yards.) The Heavy Machine Gun was fired at a slow rate of fire from thirty to forty rounds a minute. The percentage of hits to rounds fired was 21% at 1,000 yards, 12% at 1,500 yards, 9% at 2,000 yards, and 2% from 2,000 to 2,500 yards. Expressed in hits per unit time the results showed six hits per minute at 1,000 yards, three hits per minute at 1,500 yards, two hits per minute at 2,000 yards, and one hit every two minutes at 2,000 to 2,500 yards.

A wonderful opportunity was afforded Headquarters and Machine Gun Troops to fire six thousand rounds of caliber .50 in the new long barrelled Caliber .50 M-2 Guns with telescopic sights attached. These guns were fired single shot but were set for automatic fire to give the gunners a light trigger touch—when the gunner was on, he could immediately fire a burst if necessary, e.g., on a target of opportunity. Observation of strike was excellent up to 2,000 yards and the guns proved very accurate up to that range.

It was not necessary to change the rear sight every time a correction in range was given with the .50 caliber gun as with the .30 caliber, because of the much larger field of observation through the sight. If an adjustment was made up (down) in mils, the gunner could still see the strike through the telescopic sight. It can be used to best advantage when firing on stationary targets for adjustment. However, since the telescopic sight with the black pointer in the middle permits extreme accuracy in adjusting on a definite aiming point, it was generally found advisable to make all changes in both range and deflection on the sight and then to relay on the upper leading corner of the target.

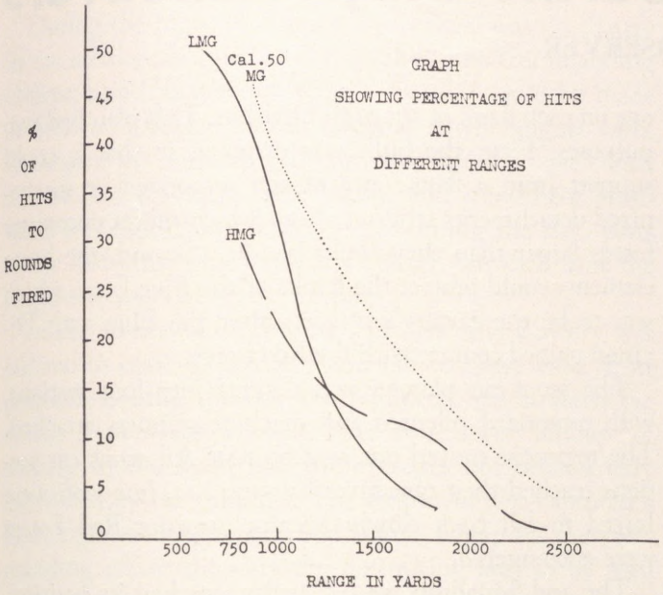
The inaccuracies caused by the traversing bar in the caliber .50 gun afforded another argument in favor of using a definite aiming point. It was noted that if the dial is level and the gun originally horizontal in the center of the traversing bar, the muzzle is elevated approximately twenty-five mils as the gun is traversed to either end of the traversing bar. This obvious inaccuracy made it necessary for the gunner to elevate the muzzle after every shot, in going from the side to the center of the traversing bar in a lateral run and to depress the muzzle after every shot in going from the center to the side. (This even though the targets were at a greater range at both ends of the run than in the middle of same.) It is quite apparent that the gunner can make these changes in elevation accurately only if he has a definite aiming point upon which to relay each time. It is also apparent that the command "up 2," means nothing to the gunner firing on a moving target because he is required to make this correction with his elevating handwheel to compensate for the inaccuracy of the traversing mechanism and an additional correction added to or subtracted therefrom confuses him completely.

The graduated rear sight was used experimentally in place of the telescopic sight and gave approximately the same results at a range up to 1,000 yards. However, at greater ranges its efficiency decreased rapidly in comparison with that of the telescopic sight.

The percentage of hits to rounds fired for the caliber .50 was 33% at 1,000 yards, 22% at 1,500 yards, and 10% at 2,000 yards. Fired at a rate of six to ten rounds a minute, the caliber .50 gun made three hits per minute per target at 1,000 yards, two hits per minute at 1,500 yards, and one hit per minute at 2,000 yards.

Section and platoon problems were conducted to give officers and noncommissioned officers maximum experience in handling problems commensurate with their rank. These problems gave a greater number of hits for each gun in the battery than the single gunner. The battery commander could immediately detect any obvious error in the initial firing data and could make rapid corrections.

Stationary targets made of bamboo, pryramidal in shape 4′ x 4′ x 4″ and covered with canvas, were



anchored in the bay at 1,200 yards, 2,300 yards and 3,000 yards, to provide range markers, targets for observation and adjustment of fire and also for zeroing the guns.

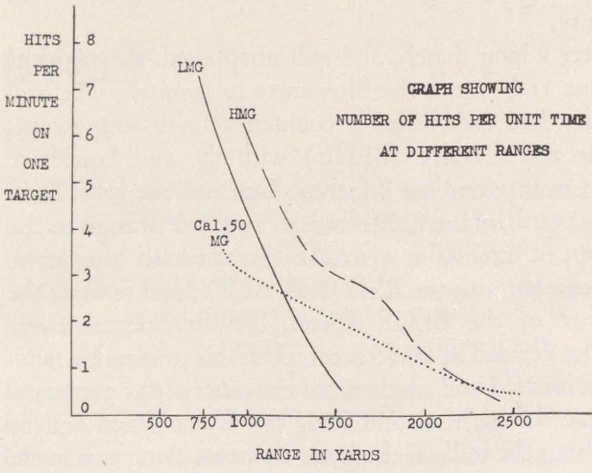
On all three targets, it was only necessary for the .50 caliber gun to fire one or two shots to get on, then a burst of ten was fired, completely covering the targets. Tracers set the target on fire at 2,300 yards. For firing at targets of opportunity, a burst of ten seems to be the most logical solution, not only is the target covered but any slight errors in range are compensated for by the length of the bursts. When the gun was fired at on the center of the traversing bar and the traversing clamp tightly clamped, very little lateral dispersion was noted.

The Scout Car Platoon fired both the caliber .30 and the caliber .50 machine guns, one-half from the pedestal mounts on the cars and one-half from the ground mounts. The firing from the pedestal mounts on the cars was to visualize a temporary action i.e., in case these cars should suddenly happen on a landing party while making a reconnaissance along the coast line. Results of the firing showed that the ground mounts obtained a slightly larger percentage of hits than the pedestal mounts.

The accompanying graphs on the results of firing afford much food for thought. It will be observed that at ranges below 1,200 yards the light gun is more effective than the heavy gun in percentage of hits to rounds fired, though less effective in number of hits per minute. The Heavy Machine Gun comes into its own at ranges between 1,300 and 1,800 yards, where it will be noted the percentage of hits decreases very gradually. Above 1,800 yards the efficiency at the Heavy Machine Gun falls off rapidly. The Caliber .50 Machine Gun is more efficient than either of the other weapons in percentage of hits to rounds fired because of its flatter trajectory at short ranges and its telescopic sight at long ranges. Nevertheless, at ranges of less than twelve hundred yards it is less effective in number of hits per minute, than either of the other guns, because of its slower rate of fire. Richochet hits with the .50 caliber gun at short ranges, however, would tear a boat to pieces whereas the .30 caliber weapon would have a much less effect, except on personnel.

LESSONS LEARNED

With the above truths established we can deduce the following employment of machine guns for beach defense. The .50 caliber guns should be situated back from the beach on the flanks of the threatened landing place. They should be on moderate high ground giving a good field of fire at distant ranges. These guns should engage the enemy boats at 3,000 yards with bursts of from 5 to 10 shots at a slow rate of fire. Thirty caliber guns should, when possible, be placed on the flanks on headlands or cliffs, not offering suitable landing places. These guns might have to be brought up after the preliminary shelling. Secondary emplacements should always be selected. They should open fire at 2,500 yards, firing 10 rounds to the burst. At 2,000 yards, they should shift to 6 rounds to the burst. When the .30 caliber guns open, the .50 caliber guns should shift to firing single shot (set at automatic fire) in order to keep from overheating the barrel. The light guns should be with the riflemen on or near the threatened beach somewhat on the flanks, under cover of the nearest bush to the water's edge, so their limited range can be utilized. They should fire bursts of five when the enemy's boats are 1,500 yards out and shift to single shots at 1,200 yards. Riflemen should commence firing at the latter range. Barbed wire should be set up in the edge of the water to prevent a rapid disembarking of the landing party. All machine guns on the flanks should be sighted along this wire for their final protective line. Some .30 caliber guns should be situated well back from the beach on high ground directly behind the threatened landing place under defilade to be displaced forward at the proper time. They should fire overhead fire as the boats approach the beach; they should shift to overlapping bands of fire as the boats get nearer the beach so that the boats will have to pass through these bands of fire. In case of heavy smoke screens, the machine guns will have to lay bands of fire in the smoke so that the boats will pass through them, until the smoke begins to clear near the beach, when the targets can more easily be seen.



Second Cavalry in the Fourth Army Maneuvers

By AN OBSERVER

THE Fourth Army Maneuvers began in Minnesota on the evening of August 11, 1940. Upon the "outbreak of war," the following troops were available:

BLUE:

One complete division (35th Division).

One separate infantry regiment (153rd Infantry).

One regiment of cavalry (2nd Cavalry).

One squadron of cavalry (2nd Squadron 14th Cavalry).

Two field artillery regiments (128th and 147th Field Artillery, 75-mm. truck drawn).

One regiment of coast artillery, antiaircraft (203rd CA) (AA).

Two squadrons of observation aviation (1st Observation Squadron and 110th Observation Squadron).

BLUE has some light and heavy bombardment and pursuit aviation available. (To be represented by observation aviation.)

RED:

A provisional corps headquarters (VII Corps).

One division (triangular) (6th Division) (less 3rd Infantry).

One complete division (34th Division).

One cavalry brigade (57th Cavalry Brigade).

One Cavalry regiment (Horse-mechanized) (4th Cavalry).

One battalion field artillery, 75-mm. (H) (1st Battalion 3rd F.A.).

One regiment of coast artillery, antiaircraft (206th Coast Artillery) (Antiaircraft).

Two squadrons of observation aviation (109th and 154th Observation Squadrons).

One signal troop (24th Signal Troop).

RED has some light and heavy bombardment and pursuit aviation available. (To be represented by observation aviation.)

GREEN: One completed corps with observation and light and heavy bombardment aviation (assumed).

The opposing forces were assigned appropriate missions and during the night 10-11 August, Blue invaded Red territory.

After a long march, and still unopposed, the night of August 11th found the Blue army in bivouac. The 2nd Cavalry had established a counterreconnaissance screen.

The 2nd Cavalry (BLUE) with the 2nd Squadron, 14th Cavalry, and one Machine Gun and one Rifle Company, 153rd Infantry, Motorized, attached, was given the mission of moving at 4:00 AM, August 12th in order to gain contact with the RED CAVALRY, and to cover the advance of the BLUE Force. The Regimental Commander decided he could accomplish this mission by sending motorized and mechanized elements of the command to seize the high ground along the Platte River, and by marching the bulk of the horse elements along two roads, one on each flank of the 35th Division. This plan had two purposes: First, the bulk was disposed so that it could support from a flank, any of the motorized or mechanized detachments sent out ahead which might encounter forces larger than they could handle. Second, the horse elements could protect the flanks of the Blue Force which was to be the cavalry's mission after the Blue 35th Division gained contact with the Red Force.

The scout car platoon was divided into four sections, with motorized riflemen and machine gunners attached. The regiment moved out at 4:00 AM. All scout car sections reached their objectives by 5:00 AM, but soon were forced to fall back slowly because superior Red Forces were encountered.

The 2nd Squadron, 14th Cavalry, reached its position, at 6:00 PM, after encountering small resistance. The 2nd Cavalry marched as scheduled until Sullivan's Bridge was reached. Here, superior Red forces, though not seen, presumably were encountered and umpires first delayed the regiment 1½ hours and later refused to allow the bridge to be crossed! Consequently, the regiment moved south in order to assist the advance of the 138th Combat Team, and to cover its flank at close range. Sullivan's Bridge and Pine Center were held by attached motorized infantry detachments which covered all possible crossings to the north of the regiment in the maneuver area. By 6:00 PM the 2nd Cavalry had encountered the Red 133rd Infantry, and captured one company. Meanwhile the Blue 139th, 140th and 137th Infantry had moved westward and taken over positions held by the cavalry's reinforced scout car patrols. The scout cars were withdrawn to the flanks and given new reconnaissance missions. The umpires ordered the 2nd Cavalry to cease movement until dawn of August 13.

During the night of August 12-13, the Commanding Officer, 2nd Cavalry, received orders that he would be relieved by the 138th Infantry at dawn, and for the cavalry to continue to protect the flanks of the Blue Force. The 2nd Squadron, 14th Cavalry, was ordered to protect the south flank, and from thereon, operated independently except for the continual rendering of information to Headquarters, 2nd Cavalry. Just at dawn, the 2nd Cavalry moved forward and captured two more companies of Red infantry, where advance was stopped by umpires and Red infantry forces.

The regiment was not completely relieved by 138th Infantry until afternoon. An attempt was made late in the afternoon to advance mounted detachments to the west and south of Pulaski Lakes, but the terrain was impassable due to swamps. At 4:00 PM the Regiment had been completely relieved and prepared to move to the north flank, east of Pulaski Lakes after learning that Sullivan's Bridge crossing was practically free of enemy forces. At this time all movement was administratively halted for the night by umpires.

During the night of August 13-14 there was no change in the mission assigned to the cavalry. The Commanding Officer, 2nd Cavalry, knowing a crossing could be made at Sullivan's Bridge moved north at dawn August 14th. Resistance at Sullivan's Bridge was quickly overcome, several Red prisoners were taken, and movement westward was continued. Several times during the day, parts of the Red units were evidently cut off, but each time the Regiment was halted by umpires.

In the afternoon of August 14th, the 2nd Cavalry was ordered to cease its advance and not to move west of its position. During the day the regiment had attained positions from which it could have done a vast amount of damage to the Reds, had the exercises not been strictly controlled by the umpires. The Regiment also captured a Red engineer detachment and found a map on the commanding officer showing the detrucking area to be used that night by the 6th Division. This was, of course, immediately sent to 35th Division Headquarters.

During the night of August 14-15, the 35th Division assumed a defensive attitude because the Red forces were known to be receiving large infantry reinforcements, but the 2nd Cavalry's mission remained the same, i.e., protecting the north flank.

After dark on the 14th, the Regiment moved its bivouac because the Reds undoubtedly knew of its location late that day. That night a patrol entered the Red Cavalry camp and captured a prisoner from the 4th Cavalry. This indicated the 57th Cavalry Brigade had been reinforced by scout cars from the 4th Cavalry. At dawn the 2nd Cavalry withdrew across country to a concealed location, and sent detachments of scout cars reinforced and patrols to all critical points for reconnaissance purposes, i.e., to determine what movements the Reds were making, their dispositions, etc. Erroneous information from the air, and from other sources on afternoon of August 14th and morning of August 15th, led the Commanding Officer, 2nd Cavalry, to believe that the 57th Cavalry Brigade had been reinforced by the horse elements of the 4th Cavalry as well as by a large portion of its scout cars. This influenced and made cautious the Regiment's action on August 15th—as did the defensive mission of the 35th Division!

On the night of August 15-16, the Regiment bivouacked near Sullivan's Bridge. All roads available to the enemy were strongly outposted.

At dawn August 16th, the Regiment moved westward to continue its mission of covering the 35th Division's north flank, pursuant to orders, and to attack and delay Red Forces. Based on excellent information from scout cars and patrols, the Regiment succeeded in executing several rapid movements on this day which would have reaped rich results by cutting off and separating Red Forces. Umpire control however forced a continuous retirement for instructional purposes, and the regiment retired to a final defensive position west of Sullivan's Bridge.

COMMENTS

The vital importance of continuous and accurate information for higher commanders can never be too strongly emphasized. For units as mobile on the battlefield as horse cavalry, timely receipt of information permits seizing golden opportunities.

The great importance of horse cavalry when properly trained was always apparent. Several times during the maneuvers such a small unit, as the 2nd Cavalry, was in favorable positions to execute havoc in rear of the entire Red Force, had umpires not intervened to prevent further attack or movement.

The value of reinforcing cavalry with motorized infanfantry, artillery, air, and mechanized forces is inestimable. A mixed corps of all these arms would possess great flexibility, power and usefulness in almost any conceivable situation. The motorized infantry attached to 2nd Cavalry was of great value in covering flank roads, "Get away" routes, etc., etc.

Reconnaissance planes should always be assigned for specific duty with cavalry. Observers must know how to recognize ground formations of troops. Dropped messages are particularly valuable in getting quick action.

Fourth Cavalry (H-Mecz) in Fourth Army Maneuvers

By AN OBSERVER

At 6:00 PM, 11 August, the 4th Cavalry (Red) received letter orders from the VII Corps, which are quoted as follows: (Extract).

"1. An invading BLUE force, estimated to be a reinforced Division, has reached the area ONAMIA-WAHKON.

"2. War will be declared on BLUE at midnight 11-12 August.

"3. The 34th Division will cross the MISSISSIPPI RIVER at 3:30 AM, 12 August and will seize position east of the line: LASTRUP-HARDING and will secure the bridge and rail facilities at CAMP RIPLEY.

"4. The 206th CA (AA) will protect the crossing over the MISSISSIPPI RIVER.

"5. Marching via STATE HIGHWAY 115, you will, beginning at 3:00 AM, 12 August cross the MISSISSIPPI RIVER Bridge at CAMP RIPLEY, clearing same bridge before 3:30 AM, pass thru the 57th Cavalry Brigade, and gain contact with the BLUE force now in the vicinity of ONAMIA.

"6. You will report any movement of the BLUES towards the west and will effect all possible delay. Zone of action: x x x x

"7. Your action will be restricted to the area west of HIGHWAY 169.

"8. You will confer with and report information directly to the Commanding General, 34th Division."

These orders were subsequently amended by telephone, so as to require that the regiment reach the line White Fish Lake-Bodesse-Johnsdale (25 miles East of the Mississippi River) by 4:00 AM.

* * *

The regiment marched from Lake Alexander at 1:00 AM, 12 August, and crossed the bridge at Camp Ripley, beginning at 2:00 AM. Obviously, due to the 25 mile depth of zone, plus 15 miles lateral deployment after crossing the bridge, no time was available for reconnaissance, nor could effective reconnaissance be made by vehicular troops during hours of darkness.

Contact was made by the 2d Squadron (Mecz) with hostile columns advancing from the east at about 5:00 AM. Scout car platoons and sections of 2d Squadron initiated delaying action opposing advance of hostile columns. Due to the fact that one scout car section became lost and failed to cover its assigned zone including Highway 27, a hostile column had advanced unopposed along this highway to vicinity of Rucker at 4:50 AM. Hence there was no contact south of Rucker until about 5:30 AM. This column was harassed on flanks and rear by scout car sections from the north and south, delaying its advance until relieved by infantry of the 34th Division.

At about 5:30 AM, telegraphic orders were received from Corps directing that the 4th Cavalry when forced to withdraw, would maintain contact with 34th Division and cover the south flank of the corps from vicinity of Center Valley. The 1st Squadron (Portee) which had previously unloaded from trailers at Lastrup marched immediately to vicinty of Center Valley where it occupied a strong position. Troop E was withdrawn to vicinity of Lastrup arriving there at 10:20 AM. Troop F continued its delaying action (against the 2d Cavalry and infantry) and reconnaissance on the north flank until late afternoon, when it was relieved by the 57th Cavalry Brigade and withdrew to the south flank. The 1st Squadron repulsed enemy attacks on its position and succeeded in maintaining its position throughout the day.

At 4:30 PM, information was received that the right (south) flank of the 34th Division was located at bridge over Skunk Creek about 2 miles southeast of Lastrup. This position was in rear of position held by the 1st Squadron, but since that squadron held a strong position and was not being unduly pressed, there was no necessity for its withdrawal. However, at about 10:30 PM, orders were received from Corps, through umpire control, to base dispositions for protection of south flank from vicinity of Genola instead of Center Valley, These orders, and not enemy action, required the withdrawal of the 1st Squadron to a position at Genola and along Skunk Creek to the south thereof. The Squadron withdrew from position within 15 minutes after receipt of withdrawal order and occupied new position about 2:30 AM, 13 August.

Beginning at daylight 13 August, Troop F intensified reconnaissance to the east and southeast of Genola. Troop F held position 1½ miles northwest of Pierz. During the morning, strong hostile forces moved west from vicinity of Center Valley, delayed by Troop F. Shortly after 11:00 AM, hostile forces had forced their way into Pierz and sections of Troop E withdrew to a position one mile north and one mile west of Pierz. By 10:30 AM it was definitely determined that hostile columns were moving north out of Pierz on Highway 218. When enemy column was 1½ miles north of Pierz, Troop E was so disposed to bring fire to bear on head and flanks of this column. At 10:35 AM, the 1st Squadron was ordered to delay hostile columns by attacking them in flank. Attack was made dismounted at 10:50 AM, and thereafter the 1st Squadron withdrew. During the afternoon, hostile movements in vicinity of Pierz diminished and by 6:00 PM, Pierz and Highway 218 north thereof were practically clear of hostile troops. Reasons for cessation of enemy activity in this area are not known. It is possible that enemy was reorganizing for an attack delivered the following morning.

At dark on August 13, the 4th Cavalry was disposed in concealed bivouac with outposts to the south and east, covering all approaches from the southeast and south.

At 10:15 PM, August 13, orders were received from the VII Corps, stating that the 34th Division would withdraw during the night to a new defensive position and directing the 4th Cavalry to maintain contact with 34th Division and cover the right of the Corps. A staff officer was immediately dispatched to 34th Division Headquarters to ascertain its plans for the withdrawal, and especially the location of the south flank of the new position.

Upon receipt of this information, the 1st Squadron was assigned a sector adjacent to and in prolongation of the south flank of the 34th Division, with the mission of reconnoitering its zone, beginning at daylight, to the southeast and toward Pierz as far as Highway 218, and to delay hostile advance within its zone. The 2d Squadron was directed to reconnoiter to the south and east toward Pierz, Genola and routes of hostile approach south of Hill 1280 and toward Little Falls. It was directed to occupy the line Highway 27-SH37X immediately. These dispositions proved to be exceptionally well chosen, since the enemy launched a strong attack in the sector of the 1st Squadron shortly after daylight August 14. Had not the 1st Squadron been in position to delay this advance, the flank of the 34th Division might have been turned. The 1st Squadron delayed the enemy advance by a "checker-board" or "leap-frog" withdrawal by troops. The 1st Squadron was gradually forced back to the west, but the enemy did not succeed in breaking through its position and at about 11:50 AM the squadron was still holding a line in prolongation of the defensive position of the

34th Division. At about this time, hostile pressure on the front of the 1st Squadron decreased, and the enemy subsequently withdrew to the east, leaving only small patrols in contact.

In the meantime, reconnaissance detachments of the 2d Squadron had encountered hostile cavalry in the area south, west, and southwest of Pierz. Such cavalry was variously estimated as being from two troops to a regiment, and was reported as being the 2d Cavalry. It subsequently developed that it was actually the 2d Squadron, 14th Cavalry. Erroneous identification is believed to have been due to use of 2d Cavalry scout cars and trucks by the 14th Cavalry.

Hostile cavalry did not succeed in advancing west of Pierz Lake, and later in the day withdrew to the east. There was little or no hostile activity in the zone of the 2d Squadron during the day.

On August 14, the Green State entered the war on the side of Red. This fact caused the Blue force to discontinue its attack and take up a defensive position. It also permitted the assumption of the offensive by the Red Corps, and the use of the 6th Division which had, until this time, been held in reserve in the vicinity of Lake Shamineau.

At about 2:00 PM, August 14, orders were received from VII Corps attaching the 4th Cavalry to the 6th Division, for a contemplated attack by that division on August 15. In conference with the Division Commander, the Regimental Commander was given the mission of screening the movement of the 6th Division to its assembly positions for the attack. The regiment was also directed to provide a provisional reconnaissance troop consisting of Troop B (horse-portee) and one platoon of scout cars and a section of motorcyclists for close-in reconnaissance and security of the division. At 5:15 PM the 2d Squadron (less 1 platoon Troop F) was ordered to move at once via routes west of the Platte River, reconnoiter the area: x x x x. The 1st Squadron (less Troop B), was directed to move (portee) via Highway 10 and Buckman Road to Buckman and await orders. The provisional reconnaissance troop was ordered to proceed via Highway 10 and Buckman Road, and join 6th Division columns at crossings over Platte River. The 2d Battalion, 3d Infantry, which had been attached to the 4th Cavalry, was ordered to proceed to Buckman and await orders.

The 2d Squadron encountered hostile cavalry in its zone, which withdrew to the north and by 10:00 PM the 2d Squadron had established a screen along the east and west road from Genola. Umpire or Corps control prohibited movement north of the Soo Railroad until daylight August 16.

The 1st Squadron (less Troop B) arrived at Buckman about 1:00 AM and immediately proceeded about 3 miles north thereof, detrucked, and established an outpost line from Genola to a point about 2 miles southeast thereof.

The 2d Bn 3d Infantry reached Buckman at 8:30 PM and were moved to the north to establish a screen along the Soo Railroad from Center Valley to Genola.

Due to restrictions on movement north of the railroad, there was little or no action during daylight hours on August 15th. Provisional Reconnaissance Troop reverted to regimental control during the day.

At 4:00 PM, August 15, the regiment received advance information relative the 6th Division plan of attack to be made at 4:30 AM, 16 August. This plan of attack was, in general, for the 6th Division to attack in the direction Harding-Johnsdale. The 1st Squadron, 4th Cavalry was to cover left flank of the 6th Division, initially from vicinity of Genola and maintain contact with 34th Division. The regiment, less 1st Squadron, was to protect the right flank of the 6th Division.

The 2d Squadron was ordered to move without delay to a position 2½ miles southeast of Hillman, and beginning at 4:30 AM, 16 August protect the right flank of the Division and delay any movement of hostile troops from Hillman or from the east.

The CR 2½ miles southeast of Hillman was a very critical locality, since it was the only exit from the swampy area south and west thereof, and it was also on a main avenue for hostile approach to the east flank of the 6th Division. It was known that this CR was in possession of the enemy.

The 2d Squadron moved out at 6:00 PM, 15 August via east-west road through Buckman, thence north. Squadron CP and that of Troop E was established at SH 84. One platoon of Troop E covered road leading east from SH 137 and the road 3 miles south thereof—the other platoon was in Squadron Reserve.

Meantime Troop F continued north to a point one mile south of the CR 2½ miles southeast of Hillman, where the troop dismounted and one platoon advanced on foot on both sides of the road. The other platoon also dismounted and moved across country through the swamps to the west and moved in on the CR from that direction. This dismounted advance was made in a hard driving rain, and across swampy ground with high swamp grass. The outguards were captured without alarm, and immediately thereafter, the 2nd Squadron 14th Cavalry (less one troop) plus 2 light tanks was surprised and captured. One platoon of Troop F was then moved west to hold the RJ 2 miles south of Hillman.

Shortly after daylight, a large hostile force, subsequently identified as CT 138 was met moving south at point about 1 mile south of Hillman. The advance of this force was successfully delayed until the 20th Infantry (6th Division) could change front to meet this threat. Contact was established with the 20th Infantry, and the maneuver terminated shortly thereafter at about 11:30 AM.

The 1st Squadron, on the left (west) flank advanced about 7 miles and was then pinched out by the converging advance of the 6th and 34th Divisions, and went into assembly area about 9:00 AM.

During the entire five days operations, the rear echelon was located at SH 49, about 5 miles west of the Mississippi River bridge at Camp Ripley. Kitchen and supply vehicles came forward twice daily (early morning and evening) to bivouacs of the troops. No supply difficulty was experienced, except that had the supply cycle allowed it, supply vehicles could have come out at night, fed supper and breakfast, making only one trip per day.

The semi-trailers were used by the 1st Squadron on only three occasions, first for the initial movement to vicinity of Lastrup; second, for the movement to south on August 14 to screen the 6th Division, and last, for the return to base camp on August 16.

COMMENTS

The operations of the regiment during the maneuver gave further confirmation of the fact that vehicular troops cannot make effective reconnaissance, nor effectively engage in combat operations during hours of darkness.

Scout cars supported by motorcyclist and antitank guns are capable of effecting considerable delay of opposing columns. However, scout cars are exceedingly vulnerable to ambush and road blocks, are lightly armored and hence have little or no offensive power. For these reasons, Corps Reconnaissance Regiments as now organized should be used primarily for reconnaissance and should be employed in combat when such employment is unavoidable.

Experience in use of semi-trailers to portee the horse squadron was quite limited. However such experience as was had suggests the probability that horse cavalry (portee) should not be combined in the same regiment with mechanized troops. The semi-trailers and tractors are exceedingly heavy, weighing 15 tons when loaded. Hence, they can move only over routes where the bridges and culverts are strong enough for such weight. They are very large and cumbersome and it is difficult if not impossible to find places of concealment for them when loading, unloading or in bivouac. They constitute a large and exceedingly vulnerable target for air or ground attacks. These considerations indicate that they should be halted and the horse squadron unloaded at considerable distance in rear of the area of probable contact. This statement, if accepted, means that the horse squadron would rarely, if ever, be within effective supporting distance of the mechanized squadron.

The action of Troop F, in dismounting from its vehicles and advancing a mile or more on foot to capture the CR 2½ miles southeast of Hillman on August 15 is considered worthy of special comment as an illustration of the necessity for cavalry to alter its usual methods of operation in accordance with the situation.

Eleventh Cavalry in Fourth Army Maneuvers

Fort Lewis, Washington

By LIEUTENANT COLONEL WAYLAND B. AUGUR, 11th Cavalry*

> "*. . . but I want to say that I believe the day is far in the future when horse cavalry will not be needed in our Army.*"—MAJOR GENERAL JOHN L. DEWITT, Commanding the Fourth Army.

FOURTH ARMY MANEUVERS at Fort Lewis, Washington, during the month of August, found the 11th Cavalry playing an important rôle as part of the Red force (41st Division, Washington National Guard, and attached troops) which defended the Tacoma region from the attacking southern force of two divisions. The Regiment functioned effectively first as a reconnaissance screen, then as a right flank guard, and finally as right-of-the-line defense force—so effectively, in fact, that the Blues never discovered the extent of the Red forces the cavalry screened. Major General George A. White, commanding the 41st Division, noted in his letter to the Regiment:

"I wish to express my appreciation of the fine services rendered by the 11th Cavalry during the maneuver period just closed. Major General Story, commander of the Blue force, was genuinely surprised at the critique yesterday when he learned that your regiment had successfully opposed his entire 40th Division and that no other elements of the Red forces had been in contact with his Division.

"The efficiency, energy and enthusiasm in which you and your command carried out the difficult rôle assigned you during the August maneuver period of the Fourth Army reflects the highest credit upon the 11th United States Cavalry.

"I want you to know how much this Division appreciates the splendid help you gave us."

* * *

Journeying from its home station at the Presidio of Monterey, California, by rail and motor to Fort Lewis, Washington, the 11th Cavalry spent the entire month of August in training and maneuvering with over 40,000 other Regular Army and National Guard troops of the Ninth Corps Area. This article concerns particularly the participation of the 11th Cavalry in these maneuvers.

The opportunity for taking part in the Fourth Army Maneuvers presented several new and desirable features in the intensive field training program of the Regiment for the year; even though the troops had been in the field the greater part of the preceding ten months and had participated in the joint Army and Navy maneuvers held in California during January and in the 3rd Division maneuvers at Camp Ord, California, during May.

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*Regimental Commander during the period of maneuvers.

The particular features of a new character which were involved in the Fourth Army Maneuvers were as follows:

a. Rail movement for the Regiment (less motorized elements) and the extensive motor movement for the organic motorized elements.

b. Training and maneuvering with and against National Guard troops.

c. Experience in maneuvers with practically all officers and noncommissioned officers functioning in duties and positions at least one step higher than their normal duties.

d. Operating with approximately 75% of the officer personnel consisting of reserve officers newly joined.

e. Operating in new and unfamiliar terrain that was of a vastly different type than that at the home station.

The rail movement presented no difficulties, although troop movement by rail was a new experience to most men and animals of the Regiment. Animals were trained prior to the trip in moving up ramps and through chutes.

During the period between the concentration of troops in the Fort Lewis-Chehalis area about August 3rd and the start of the maneuvers on August 12th one of the missions of the Regiment was to assist in training of National Guard cavalry troops. A number of specialists were placed on duty with National Guard units and the services of these men were greatly appreciated by the Guardsmen.

Terrain

The terrain in the Fort Lewis-Chehalis maneuver area consists of rolling hills largely covered by woods or cutover timber lands. Most of the action between Red and Blue forces took place in the area between the Deschutes River, which is a small stream easily fordable except for wheeled vehicles, and the Nisqually River. The latter is fordable at numerous places in the southern portion of the maneuver area but generally unfordable in the northern portion where crossing is only possible by swimming a short distance or by deep fording at selected sites. Also, along the Nisqually River north of the vicinity of Yelm steep wooded cliffs rise for a hundred feet or more, making the stream line a real obstacle to crossing except near the few roads and trails that lead over it.

The roads are limited in number, particularly for lateral communication, and are either paved and flanked with loose gravel shoulders, or are entirely covered with loose gravel.

Woods or cutover timber lands were a distinct handicap to cross-country movements. Underbrush and fallen trees made much of the area either impassable or extremely difficult to traverse. Such clear areas as existed were also frequently subject to restrictions for maneuver due to being posted as unleased, or to being cultivated which placed them off-limits.

Several large lakes in the northern portion of the area, assigned to the 11th Cavalry, further canalized the operations of troops.

From the above discussion of terrain it can be seen that the country was ideal for delaying action by cavalry. The wide front assigned to the 11th Cavalry during this second phase of maneuvers, when this type of operation was conducted, and the lack of lateral roads, resulted primarily in the successive defense of defiles and with flanking action restricted to small units in local actions. Opportunities for all types of cavalry action by the smaller detachments, which operated semi-independently during this phase, were numerous and varied. Much ingenuity was shown in ambushing, execution of demolitions, shifting of positions and fire power, and the utilization of terrain for offensive and defensive purposes. The setting was ideal for training of the individual and small units, which was the main purpose of the maneuvers.

The Maneuvers

The maneuvers were conducted with personnel and weapons "as is," except that National Guard troops could indicate a certain number of their machine guns caliber .30 as suitable antitank-weapons by displaying a prescribed type of flag by the gun.

The strength of the Regiment was about 450 men and 500 animals. Each rifle troop had its full quota of six light machine guns but could only furnish two rifle platoons of two skeletonized rifle squads. Machine Gun Troop turned out one platoon of caliber .50 guns and one platoon plus one section of caliber .30 guns. Only five scout cars were available from Headquarters Troop, one of which normally functioned as the regimental command car.

Attached to the regiment during most of its operations were the 3rd Battalion, 76th Field Artillery (Horse), and the 41st Tank Company, consisting of two tanks. These units did stellar work in support of the troops and made up largely for the extended frontage over which it was necessary to spread the Regiment.

The troops of the opposing Blue force which were employed on the portions of the front held by the 11th Cavalry consisted of the bulk of the 24th Reconnaissance Squadron containing eighteen scout cars and numerous motorcycles, the 115th Cavalry (NG), a 3-squadron regiment, and the 40th Division (NG).

Mission

The 11th Cavalry was given the mission initially of seizing the bridges over the Deschutes River and protecting the detrucking of motorized elements of the 41st Division. A glance at the accompanying drawing will give the reader an idea of the extent of this line—seventeen miles of it—a herculean task when one considers that the 11th Cavalry consisted of four rifle troops operating at reduced strengths, with many recruits, green noncoms and reserve officers. The problem promised at the outset to be a real test of the ten Regular Army officers in the Regiment.

The Regiment moved into bivouac near Roy the evening of August 12. All Red forces were required to remain east of the Nisqually River until the declaration of war. Patrols during August 13 were sent out to hold the Nisqually River bridges and await the jump-off. The Blue (southern) force was known to consist of the 3rd Division, the 40th Division (California National Guard) and elements of the 24th Cavalry Division (NG).

Scout cars and mounted patrols from outpost troops were sent forward across the Nisqually River about dark on the night of the 13th, soon after maneuvers opened for the Reds, and quickly took possession of the Deschutes bridges. They were followed by the two squadrons, 2nd Squadron on the north. The 1st Squadron made initial contact with the enemy prior to midnight and before morning of the 14th, patrols of both squadrons were engaged.

The Regimental echelon, including attached artillery and tank units, also moved forward this night along the 2nd Squadron axis to a position in the vicinity of Patterson Lake. During the morning of the 14th the 1st Squadron was first swung to the south to protect the south flank of the Division's motor combat elements which had relieved the cavalry along this front, and later in the day marched to join the Regiment at Patterson Lake. The 2nd Squadron sector was reorganized during the night August 14-15 into a Regimental sector with the 1st Squadron employed on the north half. During the day August 15 squadrons were abreast in successive delaying positions—and opposing at this time the entire 40th Division, reinforced by the bulk of the 58th Cavalry Brigade.

The fire power of the attached 3rd Battalion of the 76th Field Artillery assisted greatly in the delay, the units withdrawing by echelon as the action required. Airplane adjustment of fire by supporting elements of the 91st Observation Squadron made up frequently for lack of adequate terrestrial observation.

Highlights of the Maneuver

During most of the maneuvers the tanks were attached to the 2nd Squadron and were employed along strictly Cavalry lines and in close coöperation with cavalry troops. They proved particularly effective in covering the final withdrawal of horse elements from one delaying position to another. Effective also was their use in ambush, with scout cars in support. On one occasion, during a delaying action withdrawal, the tanks were concealed well off the road and the enemy advance guard, with antitank weapons, was permitted to move a considerable distance beyond the ambush position. The tanks attacked from the rear and the antitank weapons, unable to reverse direction rapidly enough, were ruled out.

Radio reception in the Nisqually-Deschutes theater was poor, due to many blank spots, and in order to keep the flow of intelligence moving back to the 41st Division, public telephones were utilized considerably. There was no interruption of information and the Regiment was commended by the Division on both the amount and the accuracy of the intelligence transmitted. In this connection, an experiment was tried but without conclusive results. A scout car with radio was concealed during the delaying action, well hidden but on commanding ground, and its crew acted as intelligence observers within the enemy lines for 36 hours, where it was still functioning when maneuvers terminated. It was felt that a light conveyance, rather than a scout car, with trained observers foraging on foot, could be used for this purpose. In the experiment at Fort Lewis valuable information was obtained, but whether it was worth the loss of the scout car is questionable.

Outpost units of Troops A and E which made the initial dash across the Nisqually-Deschutes valley turned in exceptional performances for marching twenty-one miles in something less than three hours was accomplished by these units despite the fact that patrols were operating at night over strange terrain (pre-maneuver ground reconnaisance having been banned) and over poor footing. Only one patrol failed to reach its objective promptly.

Just prior to the start of the field maneuver key officers and noncoms made an aerial reconnaissance of the maneuver area in planes of the 91st and 116th Observation Squadrons. This form of training had been tried by the Regiment only once before, during the joint Army and Navy exercises at Camp Ord, California, and it afforded observers an excellent picture of the terrain and road net. As the problem developed it became strictly a road-net war for the various elements of the Regiment. Key points had to be taken quickly and held with automatic weapons; use of the latter was stressed due to the lack of manpower.

Due to the extended front occupied by the Regiment, which varied from six to eighteen miles, the problems of control, administration and supply were frequently difficult. Scout cars and motorcycles were attached to squadrons to assist in control and communication. However, there were insufficient vehicles to attach any to individual rifle troops. Had this been possible it would have simplified the problems considerably. Troops were supplied during the hours of darkness with hot meals, ammunition replacements, and forage, including both grain and hay. Individual patrols and detachments being sent on extended missions were given lunches and canned rations. Sufficient ammunition was brought up daily for an adequate supply for the new semi-automatic rifles and this was theoretically distributed to individual riflemen and carried on their mounts—an advantage not possessed by infantrymen armed with that weapon.

A series of critiques, first in the form of officers' schools and later as troop schools, were held on the four days immediately after the maneuvers.

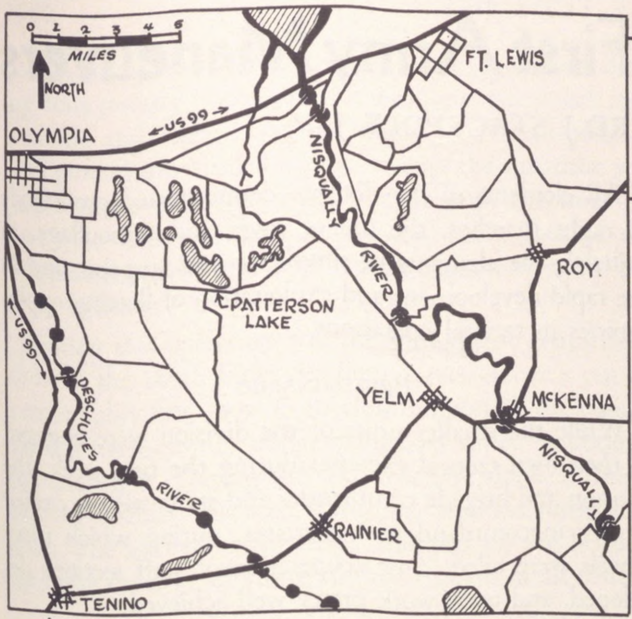
Among the recommendations and suggestions arising from the critiques were those advocating:

Light bedding rolls used in lieu of cantle rolls.

Attachment of motorcycles with sidecar to troops when operating on an extended front so that command, liaison and the flow of information will not break down.

Attachment of "Walkie-talkie" type radio sets to individual troops.

11th CAVALRY ACTION in the Fourth Army Maneuver


0 1 2 3 4 5
MILES
NORTH
FT. LEWIS
OLYMPIA
US 99
NISQUALLY
RIVER
ROY.
PATTERSON LAKE
US 99
DESCHUTES
RIVER
YELM
McKENNA
NISQUALLY
RAINIER
TENINO

1.

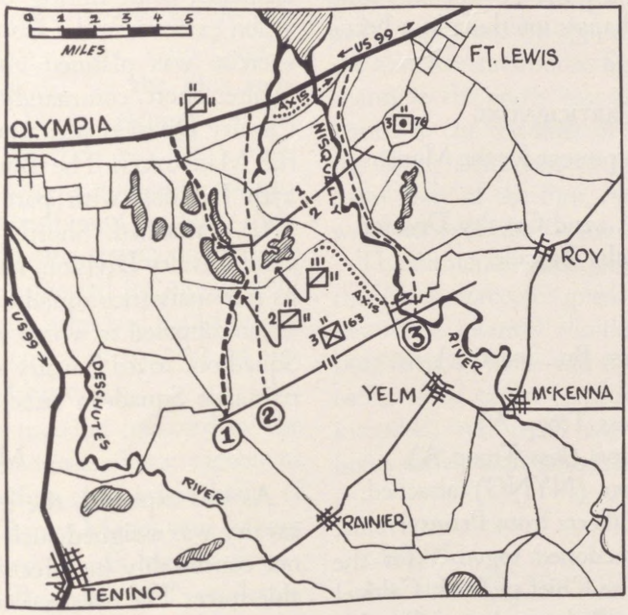
JUMP-OFF and SEIZURE of BRIDGES ~ Outposts first on Nisqually River ~ then Squadrons advance and seize bridges over the Deschutes River —

- BLACK SPOTS SHOW KEY POINTS.

2.

DELAY in SUCCESSIVE POSITIONS ~ Regimental front reduced as 1st Squadron moves from Rainier - Squadrons abreast - 1st two positions occupied successively, third position defended to protect withdrawal of Red Divsion.

- SQUADRON AXES AS SHOWN - FRD. ECH. FOLLOWS 1st SQUADRON
- HIGHWAY 99 TABBED 'OFF LIMITS' BY UMPIRES —
- 3rd BN, 163rd INFANTRY MOVED TO ASSIST THE 2nd SQUADRON ON THE LEFT OF THE LINE.


0 1 2 3 4 5
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US 99
FT. LEWIS
OLYMPIA
AXIS
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ROY
2
3 163
AXIS
3
RIVER
YELM
McKENNA
US 99
DESCHUTES
①
②
RIVER
RAINIER
TENINO

- CHRONICLE -

12 AUG - OUTPOSTS on the NISQUALLY +

13 AUG - JUMP-OFF to SEIZE CROSSINGS OVER DESCHUTES RIVER +

14 AUG - 1st SQUADRON REJOINS; ACTION on NORTH +

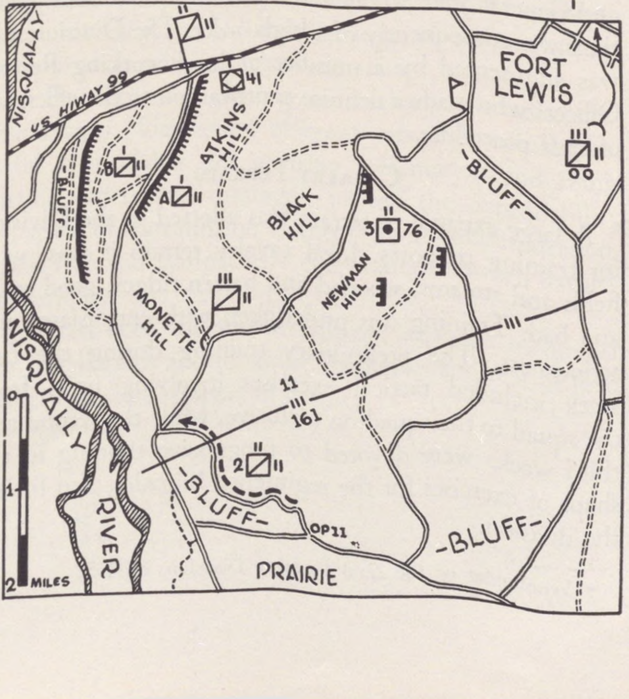
15 AUG - DELAY IN TWO POSITIONS +

16-17 AUG - DEFEND NISQUALLY RIVERLINE and COUNTER-ATTACK

3.

ACTIVE DEFENSE of RIVERLINE ~ 1st Squadron holds on the north — 2nd Squadron, after relief by 161st Infantry, maneuvers in the counter-attack as the problem ends — noon, 17 August 1940.

- IDEAL DEFENSIVE POSITION - ARTILLERY POUNDS BLUE UNTIL HE REACHES DEAD SPACE UNDER BLUFF, WHERE MACHINE GUNS HALT HIM — TANKS MOVE TO ASSIST 2nd SQUADRON IN COUNTER-ATTACK.


NISQUALLY
US. HIWAY 99
41
ATKINS HILL
FORT LEWIS
BLUFF
B
A
BLACK HILL
3 76
NEWMAN HILL
MONETTE HILL
BLUFF
11
161
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NISQUALLY
RIVER
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OP11
BLUFF
PRAIRIE
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1
2 MILES

WACHTEL - 1940

22nd Cavalry Division in First Army Maneuvers

By MAJOR GENERAL EDWARD J. STACKPOLE, JR.*

ASSEMBLED for the first time since its organization as a division, the 22nd Cavalry Division (less 54th Cavalry Brigade of Ohio and Kentucky, the 22nd Reconnaissance Squadron and Troop A, 122nd Medical Squadron (Ohio) and Troop A, 122nd Quartermaster Squadron (Kentucky)), reinforced by the 21st Reconnaissance Squadron (New York National Guard), participated in First Army Maneuvers, 1940, in northern New York State, during the period August 4-24.

On return to home station following the Maneuvers, word was received from Washington that, in company with the other National Guard cavalry divisions, the 22nd would be broken up and converted into a corps reconnaissance regiment, a medium field artillery regiment (155-mm. Howitzer) and an antitank battalion. For this National Guard organization, therefore, the First Army Maneuvers represented but a happy interlude in a hectic life of reorganizations.

ORGANIZATIONS PARTICIPATING

The elements of the Division present for the Maneuvers were the following:

Hq., Hq. Det. and Hq. Tr., 22nd Cavalry Division
Hq. and Hq. Tr., 52nd Cavalry Brigade
103rd Cavalry
104th Cavalry
166th Field Artillery (less 1st Bn., inactive)
22nd Signal Troop
122nd Medical Squadron (less Troop A)
122nd Quartermaster Squadron (less Troop A)
21st Reconnaissance Squadron (NYNG) attached.

The Division staff included officers from Pennsylvania, Ohio and Kentucky, who functioned together for the first time with great facility. The Chief of Staff, Colonel B. C. Jones; G-2, Lt. Col. Sam. Richmond; and G-3, Lt. Col. Walter A. Hardie, are all graduates of the Command and General Staff School and the technique of staff operations was consequently of a high order. The Division staff was augmented by a number of hard working Reserve Officers who made a definite contribution to the efficiency of staff procedure.

CAVALRY TERRAIN

A large expanse of terrain was allotted to the Division for training purposes. Ideal cavalry terrain it was, with fields and streams, wooded and barren ridges, good roads and bad. Training was undertaken with enthusiasm and seriousness. The preliminary training during the first week included tactical exercises involving units from the squad to the squadron inclusive, while the second and third weeks were devoted to progressive training in the shape of exercises for the regiments, brigades, and finally the division.

All elements of the division demonstrated proficiency in night marches, the use of cover and camouflage, in utilizing the elements of simplicity and surprise, and in the rapid development and exploitation of fleeting opportunities in tactical operations.

PRELIMINARIES

While the smaller units of the division were engaged in their own tactical exercises during the first week, the division and brigade commander and staffs were occupied largely in command post exercises, during which rusty wheels were oiled, close coöperation of staff sections developed, and team work pretty well achieved.

The first opportunity for the Division to function as an entity, with its own field artillery regiment and service elements, came during the staging of the two-sided division exercise, under Corps control and supervision. This exercise was planned and directed by Major General Walter Short, commanding II Corps, to which the 22nd Cavalry Division was attached for the first two weeks of the Maneuvers. The Blue force initially comprised the 27th Division with part of the 212th Coast Artillery (AA) attached. Shortly after the exercise started, the 22nd Cavalry Division, less one squadron and a portion of its reconnaissance squadron, was attached to the 27th Division, opposed to which was the 44th Division with First Squadron, 103rd Cavalry and one troop of the 21st Reconnaissance Squadron attached.

MISSIONS

As was expected, the usual thing occurred. The Blue cavalry was assigned such an armful of missions as could not conceivably be effectively performed with the available force. The cavalry was ordered to seize the crossings of the Grasse River at three widely separated points; to secure two hills and a piece of high ground on an over-extended front; to reconnoiter to the north and northeast; to delay enemy columns; to cover the crossings in advance of the Blue force over the Grasse River; and to furnish the necessary protection for the east and west flanks of the Blue force.

The above comment is not made in a harshly critical spirit. Only that it is seldom that the obviously proper procedure is followed, namely to indicate to the cavalry commander the plan of operation and the initial objectives of the infantry, followed by a request for a recommendation as to the best manner in which the cavalry can coöperate in contributing to the success of the plan.

Despite the difficulty of the assignment, the Cavalry Division undertook to perform all the missions by utilizing the 21st Reconnaissance Squadron in the dual capacity of a distant reconnaissance and combat force, while the main body of the horse cavalry and field artillery were employed to establish bridgeheads and in flanking operations. During the latter, one of the horse squadrons, driving cross country under cover of darkness, ran smack into a swamp and bogged down. Isolated on a small piece of high ground surrounded by the swamp, the squadron was finally extricated about midnight through the kind offices of a native farmer, who knew every foot of the treacherous terrain and who led the squadron safely out of its difficulty.

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*Commander of the 22nd Cavalry Division, NGUS.

During this operation and the subsequent Army Maneuvers, the 166th Field Artillery (truck-drawn) put on a remarkably fine show in its close support of the rapidly moving horse cavalry under many and varied conditions, day and night. During the corps exercise alone, the artillery successfully executed thirty-one separate firing missions. The artillery consistently tramped on the heels of the horse cavalry, affording spirited support at all times.

The Main Event

The two-sided army exercise, climaxing the three weeks of field training, afforded many opportunities for the execution of typical cavalry missions by the 22nd Cavalry Division. Operating as army cavalry for the Blue commander, Lt. General Hugh A. Drum, elements of the cavalry on two successive days, marched over thirty miles each day, much of it at night, fought numerous engagements, forded two rivers (one actually and the other theoretically) and demonstrated to its own satisfaction at least that the horse cavalry, closely supported by mobile field artillery and covered to the distant front and flanks by aggressive scout car action, will continue to play an important rôle in the wars of the future.

Men and horses were both somewhat tuckered by the close of the second day, but the command was capable of considerable further sustained effort after a few hours of rest. The horses, prior to First Army Maneuvers, having been reasonably well conditioned by six weeks of use, by the 59th and 51st Cavalry Brigades, of New Jersey and New York, respectively, were in reasonably good flesh at the close of the Maneuvers and after a week's rest, in most cases, would have been ready for further operations.

The initial mission assigned the Blue cavalry at the outset of the army exercise was to cover the crossings of the Grasse River by the II Corps, secure certain crossings of the Racquette River (the second obstacle) and to protect the east and south flank of the army. This mission, which the Cavalry Commander undertook to accomplish progressively, was successfully performed by two night marches, the daytime efforts being devoted to consolidating and holding positions occupied during the night, and in extensive reconnaissance and occasional brushes with hostile ground forces.

One of the unique occurrences of the maneuvers was the night march of the 52nd Cavalry Brigade, in one column over a single road, directly through the main body of a hostile division. Breaking bivouac shortly after midnight, the brigade column glided quietly and steadily over a dirt road without the firing of a shot. As dawn broke, with enemy outposts in their rear, the advance elements of the brigade reached the Racquette River, swept across the bridges at Colton, at a dead gallop, and prevented engineers of the Black force from detonating explosives that had been planted against a possible Blue threat.

The advance guard squadron, after the umpires had gone into a huddle, was permitted to establish its bridgehead, and as soon as the umpires learned for themselves that the entire brigade was following the advance guard at close distance, the brigade was permitted to cross without further opposition and the second mission was completed.

With the Black force divided between the east and west banks of the Racquette River, the 52d Cavalry Brigade, supported by the 166th Field Artillery, and with the 21st Reconnaissance Squadron rapidly feeling out the enemy to the north, east and south, the Blue cavalry was poised to cut the lines of communication and supply of the Black army east of the Racquette River, while the main body of the First Army pressed steadily northeastward between the Grasse and Racquette Rivers.

The numerical superiority of the First Blue Army over the Black force, coupled with the rapid movement of motorized infantry reconnaissance detachments and the Blue cavalry, horse and motorized, brought the army exercise to an earlier conclusion than had apparently been intended, and recall was sounded eighteen to twenty hours earlier than scheduled.

Lessons

Many lessons were learned by the 22nd Cavalry Division, including the following:

a. The necessity of close coöperation and thorough understanding between the commanders and staffs of the cavalry and the infantry divisions, and to the corps to which attached, including exchange of liaison officers down to and including small elements.

b. The futility of placing main reliance on radio communications. Utilization of scout cars and motorcycles, so far as available, for securing information and transmitting orders and messages, proved the dependability and speed of transmission of this form of communication.

c. Close and sympathetic coöperation between cavalry and artillery.

d. Vital need for antimechanized weapons to protect rear installations and to secure the flanks and rear of field artillery in close support of cavalry.

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Motorcycle Maintenance Problems★

By LIEUTENANT WILLIAM B. FRASER, Cavalry

OUR army is being modernized. A recent innovation has been the addition of a Cavalry Reconnaissance Regiment to each separate Army Corps. Due to the fact that the movement of the corps is accomplished largely by relatively fast-moving motor trucks, it was impractical to use conventional horse cavalry for the reconnaissance regiment. So it was decided to form a composite regiment combining as much as possible the road speed of mechanized cavalry with the cross-country mobility of horse cavalry.

This article will discuss only the characteristics of motorcycles and the trouble encountered with them as observed in the motorcycle troop of the 6th Cavalry in its first maneuver as a Corps Cavalry Regiment.

The maneuvers were held in Georgia and Louisiana during the spring of 1940. Weather was moderate, both as to temperature and rainfall. In Georgia there was considerable sand. There were no rugged hills anywhere in the entire maneuver area. Taking everything into consideration, there was not enough rugged country, extreme heat and cold, or dust to thoroughly test the capabilities of the motorcycles as they would be under actual conditions of warfare.

The motorcycle troop was equipped with 40 motorcycles with side car, 41 solo motorcycles, 6 scout cars, 4-6 x 6 2½-ton trucks, and 4-½ ton pickup trucks. Due to lack of passenger space, it was necessary to mount three men on each of about 20 motorcycles with side car; all other vehicles carried a normal load. The same equipment was packed on the motorcycles as is ordinarily carried by a horse cavalryman on his horse. Windshields and leg shields were used on motorcycles with side car, but only leg shields on the solos. Shortly prior to the termination of maneuvers, leg shields were removed from both types of machines.

The motorcycles themselves were strictly commercial except that special low compression heavily finned aluminum cylinder heads for better cooling and a special front fork giving additional clearance between wheel and mud guard were used on all machines.

A detailed account of the troubles encountered with the motorcycle will now be given:

1. *Wheels and Tires.*

a. Wheel spokes worked loose after 2000-3000 miles. This condition was not most noticeable on the rear wheel of motorcycles with side cars carrying 3 passengers, although other motorcycles also exhibited the trouble to a lesser extent. Two possible causes for this looseness are:

(1) Spoke nipple unscrewing from spoke.
(2) Deformation of various parts of the wheel, as:
    (a) Stretching of spokes (unlikely).
    (b) Distortion of threads on spoke or nipple.
    (c) Settling or wear of spoke anchorage in rim or hub or both.

Once a few spokes get loose, the remainder loosen up rapidly. Often, several spokes will break in aggravated cases. Spoke breakage usually occurs at the point where the spokes bend to enter the hub anchorage. The most satisfactory way of checking and adjusting spokes without removing the wheel and using a jig is to strike them with the blade of a screwdriver; a moderately high clear ringing sound is produced when the spoke has the correct tension. If such a sound is not produced, the spoke should be tightened or loosened until it gives the correct sound. Care is necessary not to adjust a spoke too much. Invariably when one spoke is found loose, all the rest are also loose, so a complete adjustment is usually necessary. Each spoke should be slightly tightened in order around the wheel. This process is kept up until all spokes give the same pitch note—the moderately high clear ringing sound previously mentioned. Wheel rims are apparently not distorted by this method of tightening; it is fast, and gives uniformly good results.

b. Lugs attaching wheels to brake drums.

These lugs worked loose if they were not tightened to an extreme degree.

c. Tires.

★EDITOR'S NOTE: *In view of the immediate reorganization of several of our National Guard Cavalry regiments as Horse-mechanized Regiments, the subject of "motorcycle maintenance problems" should be of timely value.*

Lieutenant Fraser, now a member of The Cavalry School faculty, is thoroughly familiar with these problems, having been motor officer of G Troop, 6th Cavalry (Motorcycle Troop) during maneuvers in Georgia and Louisiana. He has covered these problems frankly, from the point of view of a troop officer only, inasmuch as his duties did not include higher maintenance.

Rear tires wore abnormally fast, due to rapid acceleration and braking.

Tire tubes were found to be unsatisfactorily vulcanized in the process of manufacture. Numerous flats occurred due to slow leakage through pinholes at the point where the two ends of the tube were vulcanized together.

Many punctures occurred, especially in rear wheels (apparently, front wheels turned up nails, etc., which punctured rear wheel). Some form of puncture-proof tire is considered essential for motorcycles.

Solo motorcycle tires are not interchangeable with motorcycle with side car tires, which makes it necessary to carry two different sizes. This condition is not necessary; corrective measures should be taken. Also, two different kinds of wheel are used; one kind is used on front of solos only; the other kind is used everywhere else. There is no reason why the same kind of wheel cannot be used both front and rear with minor changes of design.

2. *Fork rocker plates.*

a. The rocker plate studs on which the rocker plate pivots on the spring fork were found to work loose chronically. No means of tightening these studs was found which would pervent them from working loose. For the sake of safety, it was necessary for the drivers to inspect these studs at every halt.

3. *Seats.*

a. The pivot located at the front end of the seat leaked grease onto breeches of rider, regardless of how small an amount of grease was applied. I believe some sort of an oilless bushing should be used here, or construction modified so that lubrication is unnecessary or leakproof.

4. *Rear stands.*

a. Rear stands, mudguards and tail lights were often bent or broken by a motorcycle running into another one in front of it. Much of this could be prevented by installing a heavy duty stand that would also act as a bumper.

5. *Handlebars and controls.*

a. The throttle control of the vehicles was located on the right handlebar. This made it necessary to use the left hand to pass messages, signal, etc, which was found difficult for two reasons:

(1) Most men are right handed and require much practice to acquire proficiency in the use of their left hand.

(2) The motorcyclist's right hand is nearer to a vehicle being passed than the left. Consequently, it is easier to use the right hand when delivering a message to a moving vehicle.

6. *Electrical equipment.*

a. Cut-out relays were unsatisfactory and gave considerable trouble. Apparently they were not sufficiently rugged or weatherproof.

b. Switches gave a good deal of trouble, chiefly because they were not sufficiently well protected from rain. In a number of instances, rain caused a direct short circuit or resulted in corrosion which eventually caused short circuits in various parts of the switch. Sometimes the battery ran down; in other cases, the headlights or signal lights were short circuited in such a way that the light burned.

c. Wiring in general was satisfactory, except that no provision was made to safeguard the tail light wire when the rear fender was hinged upward to remove a wheel. As a result, this wire was often broken.

d. Horns were eminently unsatisfactory. They were not constructed dust proof, with the result that particles of grit, dust, etc., collected between breaker points and prevented horn from functioning. Complete disassembly was necessary for cleaning. Furthermore, the horns did not stay tuned correctly for any length of time. An entirely different horn should be used, or the present one redesigned for greater ruggedness and weatherproofness.

e. Stop light switches were so poorly made that most of them were out of commission before the vehicles had gone 1,000 miles. The switch should be redesigned or a different one used.

7. *Power train.*

a. Chains.

The front chain was satisfactory. The rear chain ran in the open without protection of any kind; this allowed dust, abrasives, moisture, etc., to come in contact with it. Lubrication was difficult, wear was rapid, and constant adjustment was necessary. I believe that some form of chain enclosure and a system of positive chain lubrication could easily be incorporated into the motorcycle. Such modifications would help immeasurably.

A graphite grease was used to lubricate the rear chain. This grease was applied daily. I thought that perhaps no lubricant at all would be best in sandy country, but experiments showed this idea to be erroneous. Chain lubrication was found to be necessary at all times and under all conditions; otherwise severe scoring and wear occurred in both chain rollers and chain sprockets.

b. Clutches.

Clutches were satisfactory except that the clutch pedal friction adjustment was sometimes difficult to maintain constant, apparently because of the entrance of dust and moisture. This defect was not serious.

8. *Motor and accessories.*

a. The motorcycle motor was found to be entirely unsuited for military purposes. The chief defect is its tendency toward chronic overheating, which occurs with prolonged heavy pulling, or slow speed running. The resulting high and unevenly distributed temperatures apparently distort the cylinder sufficiently to permit excessive blowby, which causes eventual disintegration of the pistons. Entire redesign of the engine or cooling system or both seems indicated.

Another factor which causes severe engine wear and resulting blowby is dust in the intake air. An air cleaner is provided to prevent dust from entering the engine through the carburetor air intake, but it was found to be inadequate; it is the copper mesh type, which quickly loses its efficiency in service. The oil in the mesh is soon blown away or so covered and mixed with dust that it becomes valueless in absorbing further dust. Some form of oil washed cleaner is necessary, or at least a method of keeping the mesh of the present type moistened with

oil, as for instance venting the crankcase into the air cleaner.

b. Oil pressure indicator.

The oil pressure indicator light often flashed on when oil pressure was normal. This was usually due to a defective oil pressure switch. A more rugged switch should be used.

c. Mufflers.

The motorcycle engine exhausts are far too loud. I do not see why some more efficient sound-reducing muffler cannot be used. Also the tail pipe of the equipment muffler was not strongly enough welded to the muffler; it was often knocked off.

d. Gasoline strainers.

The gasoline issued during field service is usually very dirty. Consequently, an efficient, large capacity filter is necessary. The gasoline filter supplied on motorcycles is absolutely useless; usually, whenever the filter requires cleaning, the carburetor also requires disassembly and cleaning. Some form of filter which will positively prevent the passage of water as well as foreign material should be used. I experimented with the Carter Ceramic Filter and found it to give good results.

The dirt and water which collected in the carburetor bowls made it impossible to keep the carburetor adjusted unless almost daily cleaning of the carburetor was practiced; of course, this was impractical. In order to keep the motor running with an improperly adjusted carburetor, the drivers usually were forced to keep their motors running at an excessively high speed regardless of the speed of the vehicle, which meant additional overheating of the motor.

e. Carburetors.

All carburetor floats were inclined to stick occasionally. This could probably be prevented by minor mechanical changes in the carburetor.

Carburetors in the solos seemed to have a "flat" spot upon sudden acceleration. This defect was not noticed in the motorcycles with side cars.

The fixed high speed jet is thought to be an excellent innovation.

9. *Accessories.*

a. Windshields and legshields.

A motorcycle problem still unsolved is how to adequately protect the driver from the elements without interfering with his observation or disturbing the operation of the motorcycle. The windshields as now issued are unsatisfactory. They cause overheating of the motor, interfere with the driver's view toward the ground (bad when going cross country), are not transparent during a rain, easily become scratched, and cannot be seen through at night against oncoming traffic, are easily damaged, and afford small protection from wind and rain.

It would be expected that with all these disadvantages, at least a moderate amount of usefulness from the windshield ought to result. Unfortunately, this is not the case. It seems to me that probably the most likely approach to securing proper protection and comfort for the motorcyclist is in the design of special clothes, headgear, face protectors, etc. The need for such equipment is immediate.

b. Buddy seats.

Tables of organization had been formulated for the motorcycle troop on the assumption that 3-passenger tricycles would be used instead of a 2-passenger motorcycles with side car. Due to the fact that the troop was actually equipped with motorcycles with side car, it was necessary to make provisions to carry a third passenger. This was done by replacing the original 1-passenger motorcycle seat with a 2-passenger "buddy" seat. In the case of solo motorcycles, the same exchange was also made, not to permit the habitual carrying of two men on a solo, but rather to provide extra passenger space in case of emergencies.

After the buddy seats had been in use for a short time, serious objections to them became apparent as follows:

(1) Seat was shaped incorrectly for a comfortable ride.

(2) Seat springs and weight were so proportioned and designed that road bumps were transmitted forcibly to rider instead of being cushioned out.

(3) When used to carry two riders, the rearmost man was gradually jolted forward, making the front man very uncomfortable.

(4) When used to carry two riders, the front man's knees or shins were usually forced against the crash bar, resulting in extreme discomfort.

(5) The buddy seat raised the driver's legs several inches higher from the ground than the original seat. This worked a hardship on the shorter men, many of whom were almost unable to reach the ground from a buddy seat. (Note: this objection was not serious in motorcycles with side car because there is not any need for the driver to balance himself with his legs.)

For these reasons, buddy seats were removed from solo motorcycles and the original equipment seats substituted. In the case of motorcycles with side car, the buddy seat was removed and replaced with the original equipment seat, then, a bracket was designed and manufactured locally for mounting the buddy seat directly over the rear wheel of the motorcycle. This position was unfavorable for a smooth ride, but due to a well-sprung support (saddle was sprung both front and rear, an unusual feature) a surprisingly easy ride was obtained. However, there were several serious objections to this mounting:

(1) Rear wheel spokes loosened very rapidly with the added weight of a third man.

(2) While a good ride was obtained on smooth roads, a very poor one was obtained cross country, because there was no snubbing device on the saddle mounting. The seat rode like a bucking broncho over ruts and pot holes.

(3) Due to the improvised nature of the design, some structural faults developed.

Despite these objections, the modified seat was far superior to the conventional buddy seat.

c. Side cars.

The worst structural feature with side cars was the ball joint nut which attached the side car frame to the motorcycle. These nuts worked loose continually; several accidents were narrowly averted. Drivers inspected these nuts at every halt to insure that they remained tight.

d. Side car seats.

It is my opinion that the passenger in the side car ought to be seated facing to the rear. This gives all-around observation, as the driver looks to the front. In line with this thought, a minor modification of the side car seats was made which faced the side car passenger backward. Results were excellent. The comfort obtained was better than in the conventional side car because the modified seat was equally good and in addition the passenger was faced so that the wind did not blow into his face. Observation against surprise aerial attack was increased almost 100 per cent. The only objection seemed to be that most of the side car passengers appeared more interested in where they were going than where they had been.

Side car brakes would not stay in adjustment for more than a few hundred miles. The linkage of this brake should be entirely redesigned.

10. *Summary of maintenance troubles.*

A record was kept of work performed in the field by troop maintenance personnel during the maneuver period. An analysis of these troubles was made and the following result obtained:

Cause of Failure	*Percentage of total failures*
Poor design of motorcycle	53%
Faulty preventive maintenance	12%
Normal wear and tear	22%
Miscellaneous	13%
	100%

The above record does not include any work performed by regimental or higher echelons; hence a large number of difficulties have not been considered. The chief item which was performed by these higher echelons was the rebuilding of "burnt out" engines (engines with disintegrated pistons and badly worn cylinders). Only two such rebuildings were required during the maneuver period (first 4,000 miles of operation). However, it was apparent at the conclusion of maneuvers that at least 30 or 40 more rebuilding jobs would soon be required out of a total of 81 motorcycles. This would raise the percentage of failures due to poor design up to almost 80%.

11. *Conclusion.*

Motorcycles in their present state of development are entirely unsuited for military purposes, except for use in messenger work, traffic control and the like. Even for these uses they should be radically redesigned. Suggested lines of improvement:

(1) Noise of operation should be reduced by use of a suitable muffler.

(2) Reliability and life of motor should be increased by:

- (a) Radical redesign of cooling system.
- (b) Use of more efficient air cleaner.
- (c) Use of oil filter.

(3) Road clearance should be increased (in case of motorcycles with side car) at least six inches.

(4) Power should be applied to wheel of side car as well as rear wheel of motorcycle.

(5) Cruising radius should be increased about 50 miles over the present.

(6) A reverse gear should be fitted on all motorcycles with side car.

(7) A motorcycle with side car developed along the lines just mentioned should be used in place of solo motorcycles.

(8) I have not had sufficient experience with tricycles to make any comments on them either pro or con.

Combat Intelligence

By Colonel N. B. Briscoe, Cavalry

IT has been said that of one hundred items of information of the enemy only ten ever arrive in time to be of any value, and only two of these ever bring about a decision on the part of the commander. This statement indicates the combined effect of combat intelligence work and of communications.

From the standpoint of the combat intelligence personnel, our *staff-two* sections, we can dismiss the communications angle to a large extent since the matter is out of their hands. However, the transmission of combat intelligence items can be exceeded in importance only by calls for supporting fires, provided the items really have value. This is where evaluation comes into the picture. This combination of timing and value is in the hands of *staff-two* personnel. They must determine the priority of their own items and manage to get the selected ones an early priority over the communication lines.

The ninety eventually useless items, are the serious problems. Some are transmitted through ignorance, or habit, never having had any value. Some are given the wrong order of priority, being useful if received in time but losing their value if received too late.

On the other hand, sometimes a very insignificant looking item may be the corner stone that completes the temple.

These items are like the pieces of a *jig-saw puzzle*. You push all the light-blue and greenish pieces together looking for sky or water areas. You put all the pieces with blossoms together, and all the pieces with brick-work together. Take the brick-work pieces for example. After fitting some together you find an edge to the brick-work. This may be the top of a wall, the end of a wall, the edge of a gate post, a porch pillar, or a chimney. You work along this edge adding length to it. Finally you come to a coping effect with greenish-blue adjacent. This may be the top of a chimney against the sky, it may be the top of a post against the sea, or the end of a wall against either sky or sea. You continue to add pieces, or items, and you find the other end of your brick edge disappears in flowers. "AH! we have a wall against the sea," you say. Or have you? It still might be a roof garden flower-bed. You build on and finally know the answer as to pillars, walls, flower-beds and sky or water.

Our combat intelligence picture builds up that same way. We get a report that somebody is in the brush on a certain hill. If we sit and watch the place we may learn after a while whether it is the farmer's cow, the farmer's daughter, a soldier RED or a soldier BLUE. If we send a reconnaissance to the place we shall learn probably earlier and certainly more definitely as to what we saw. This is confirmation of suspicion.

Now the presence of this soldier, BLUE or RED, at this particular point may be utterly immaterial, but it may make all the difference in the world to both sides.

Shall we report his location? If so, what real information do we give anybody? A message saying, "There is a soldier on hill 748x,"would probably be filed in the wastebasket.

The first thing our reconnaissance will determine is whether the soldier is RED or BLUE. We still have to find out, if enemy, how much company he has, what kind of weapons he has, what his group is engaged in doing, and from this deduce what he has in mind, what he intends to do.

One Robin does not necessarily make a spring, but when we see one we look for more and, finding them, know that spring has come.

We see feathers behind the barn, but we don't know whether it is a hawk, owl, cat, dog, fox, or what, that killed the chicken. We have to have more evidence, so we can hunt down the predator. We hunt for tracks, or other evidence to identify the culprit.

Combat intelligence is based on suspicion and curiosity. We suspect everything, every area, every move, every shot, and we turn over every object, every report, every hunch, and look at the other side. Then we hunt for evidence to prove the truth or falsity of our suspicion. When we have established its truth, we have only one point of evidence. We must have more. Every deduction, and the ensuing decision, is built on circumstantial evidence, a number of more or less unimportant points that add up to the conclusion that the enemy is guilty of being at a place, or has the intent to do some particular thing.

Staff-two people must be suspicious, alert, full of curiosity, able to deduce from circumstantial evidence, and perennially on the hunt.

How does your wife work on you to learn what you did at the Legion Convention? You treat the enemy the same way.

Every branch of the service seeks information of value to itself. Very frequently this information has value to others. It will not improve with age, and it is not personal property to be guarded and preserved.

The Artillery Liaison Officer with the infantry learns about the same things the neighboring infantry learns, but the artillery area itself learns things, new directions of fire, interesting to the infantry, as well as new calibers and types of ammunition interesting to the higher echelons.

The aviation and cavalry must tell each other what they learn, the cavalry and infantry have to turn over directly to each other the items they learn. The infantry and artillery are observing together, as it were, so their swapping should be automatic.

Each office gets "leads" and must figure out who can give the confirming data. Also, each office must ask itself in the case of each item, "Who else can use this?" and pass the information crosswise to the proper places.

Remember the time element!!!

* * *

5TH DIVISION INSTRUCTIONS

The following section of the *Standard Operating Procedure* of the 5th Division is quoted for its excellent information value:

"10. *Intelligence, Counterintelligence.* The following intelligence and counterintelligence missions will be routine. In any particular situation, appropriate additional missions will be issued as required.

a. All units (including security detachments).

(1) *General.* First contact with the enemy always will be reported at once by the most expeditious means available. Units in contact will initiate action, at once, to determine enemy strength, composition, dispositions (especially enemy flanks), movement, and attitude. Report will be made as soon as any of these items is obtained. Report any marked change in the volume of enemy artillery fire. Information of observation aviation will be included in periodic reports; of combat aviation as soon as observed. Use of persistent chemicals, organization of the ground, to include obstacles and demolitions will be reported immediately.

(2) *Prisoners.* Examination by subordinate units will be conducted as rapidly as possible and will be limited to matters of immediate tactical importance to the unit concerned. Prisoners will be sent to the rear as rapidly as possible so that they may be questioned by G-2 personnel. Identifications and information of hostile strength, compositions, and dispositions, obtained from prisoners, will be sent to the Division CP by the most rapid means of communication available.

(3) *Documents.* All prisoners and enemy dead will be searched for documents. Situation maps and copies of tactical orders and instructions will be sent to the Division CP by special messenger.

b. Infantry Regiments. Report own front lines every two hours (on the even-numbered hour) during daylight and whenever there is any important change therein. Include contour of enemy front when known.

c. Division Air Service.

(1) Report, as soon as observed, any assembly or movement of enemy troops, artillery in position, trenches, obstacles, supply installations, enemy air activity, especially combat aviation, and front lines (when changed since last report). Photo enemy ground organization, suspected areas, installations, and available crossing fronts in the attack or defense of a river line.

(2) Photo our own bivouacs or assembly areas, locations of reserves, artillery positions, Division CP, and supply installations, to check on concealment; these photos to be taken as soon as there is sufficient light after occupation of the area concerned and thereafter twice daily. Report any infraction of orders covering concealment, including use of lights.

d. Field Artillery. Report location of enemy batteries, include caliber if known. Report all movement of enemy artillery; include type of prime mover. Report areas in which enemy artillery fire is falling; include caliber and direction when known.

e. Engineers. Reconnoiter, and report, the condition of routes in our zone with particular attention to bridges or other critical points. Report routes and areas of probable employment of enemy mechanized forces. Report any important errors in available maps (include in other reports). Check our use of camouflage.

f. Medical Battalion. Interview enemy wounded when their condition permits. Report identifications and send documents to Division CP immediately.

g. Chemical Warefare Officer. Report enemy use of chemicals; include type (especially whether persistent or non-persistent) when and where used.

h. Signal Company. Report any enemy use of radio noted, and contents of any enemy radio messages obtained.

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To be prepared for war is one of the most effectual means of preserving peace.

—*Washington.*

CCC Training for Reserve Officers

By Lieutenant Walter Killilae, C. A. Reserve

AT a time when national defense is a major topic of discussion, and when more training for reserve officers is mentioned in many circles it may not be amiss to glance at the training that is being received by some 5,000, and has already been received by about 15,000 reserve officers. Except for the first few months after its inception the Civilian Conservation Corps has been quartered, rationed, disciplined and given medical attention by reserve officers of the Army, Navy, Marine Corps and the Coast Guard.

For most of the time since 1933 the Corps has been commanded by reserve officers serving on active duty under their commissions. Since August of 1939 they have been employed as civilians.

The Army is one of the four agencies coöperating in the administration of the Corps. The Director's Office is the coördinating and policy-forming group, has charge of enrollee selection and the motor vehicle repair shops. The Departments of Agriculture and the Interior through their several bureaus and services carry out the work program. The Army builds and maintains the camps, commands the companies, is the quartermaster, fiscal agent, sanitary and health officer as well as looks out for the education, welfare and religion of the Corps. In short, the Army handles the enrollees all the time they are not actually working.

The training that reserve officers receive in the Corps is perforce limited in its scope. They are not able to include in their training any tactical or strategical employment of the principles they learn in their extension school courses. Their work in the Corps does train them in leadership, in the handling of men, in the performance of certain staff functions, acquaints them with Army paper work and with the Army way of doing business.

Reserve officers are employed in the Director's Office, in the War Department, in Corps Area Headquarters, reception centers, supply depots, and in the many district headquarters. Most important of all, they command and serve in the 1,500 companies in the field.

As it is the company commanders, subalterns and physicians who learn most, let us examine some of the duties that they are called upon to perform:

The qualities of leadership which must be exhibited by a company commander are essentially the same as those which are required of a commander of a unit in combat. He must be able to instill into those under his command the desire to do what is considered right in such a manner that it will stay done. Pride in a unit must be taught the enrollees by the commander. They must be made to feel that each camp, their camp, is a unit in a vast working program, the success of which is very often judged not by what they do on the job, but by what they are when they are away from camp on liberty trips or on leave.

The company commander is responsible for the construction, maintenance, repair and sanitation of his camp, as well as the mess, discipline, welfare, education, and recreation of the enrollees. Some have likened his work to that of a post or separate unit commander in the regular service—except that he does not have a large enough staff. That analogy may seem somewhat far-fetched, but when one considers that the company commander is an acting quartermaster, a finance agent, a construction officer, and perhaps an adjutant as well as a bookkeeper in addition to being a commander the analogy justifies itself.

In the handling of men, company officers acquire experience which should stand them in good stead should they ever be called upon to command troops in combat. They live in camp, close to their men where they can observe the work, and where they are constantly called on by the men for advice and aid. An officer on CCC duty is in many cases a father to his men as much as their superior. He has to be.

As a disciplinarian the Company Commander is faced with several unique problems. First, he is dealing with boys between the ages of 17 and 23, many of whom are away from home for their first time. The reasons that these men are in camp vary all the way from an earnest desire to help support their families to just plain curiosity. The commander has no articles of war to wave before his miscreants nor any guardhouse in which to place his culprits. Instead he has what might pass for the disciplinary powers of a commanding officer as laid down in AW-104. His biggest clubs are fines not in excess of three dollars per man per month and the inevitable but nonetheless reliable dishonorable discharge.

Every company commander has a subaltern to assist him. The duties of the subaltern are rather routine, yet he is given a measure of responsibility. He is usually the mess and exchange officer. In the performance of these two duties he must not only do all the necessary bookkeeping, but he must do all the buying and planning for both departments. Then he is usually assigned some of the company commander's duties, and is always expected to take over in his superior's absence.

In addition to their duties in camp of caring for the injured and sick, most CCC physicians are called upon frequently to examine new selectees for enrollment. They, along with many company officers assigned to the same task, thereby receive practice in the operation of reception centers.

A CCC company officer is confronted with a similar problem almost every three months. It is the securing of a competent maintenance or overhead detachment. The enrollment periods in the Corps are only six months in duration, and in order to keep the Corps at full strength there are four enrollment periods each year. Since an enrollee cannot remain in the Corps more than twenty-four months, must leave when he reaches his twenty-fourth birthday or marries, there is a great turnover of enrolled personnel. To partially relieve the officers from constantly instructing new men in their duties each camp is allowed five enrollees on the Army overhead and five on the Technical Service overhead to be exempt from the limitations set out above.

Many have stated that the Army is overlooking the training possibilities of the Civilian Conservation Corps. It cannot be said that the officer training to be had in the Corps is being overlooked, and after all it is easy to teach a man to handle a rifle. Reserve officers serving in the Civilian Conservation Corps are now commanding the same type of men they would be called upon to command in a time of national emergency. The reserve officers now serving in the Corps are assets to the Army because they can without a great deal of supplemental training perform all the duties other than combat duties which are so important in an Army where staff work is so essential.

A reserve officer serving in the Civilian Conservation Corps is rounding out his military skill in such a manner that he will be of invaluable service to the Army in case of a national emergency.

The Cavalry Rifle and Pistol Teams

SINCE June 12th, the Cavalry Rifle and Pistol Teams have held tryouts at the Erie Ordnance Depot, La Carne, Ohio.

From July 19 to 21 inclusive, the teams took part in the Indiana National Guard and State Rifle Association Matches at Frankfort, Indiana, and returned to Camp Perry with eleven of the fifteen medals in the rifle matches and all of the medals in the seven pistol matches entered. Sergeant H. Young, 8th Cavalry, was the outstanding rifle-shooter in these matches, with first place in the aggregate match; first in the 200-yard rapid fire match; and second in the 200-yard offhand match. The outstanding pistol-shooter, Staff Sergeant J. B. Jensen, Cavalry School Detachment, won four first places; one second place; and two third places.

A Cavalry team made the trip to Wakefield, Massachusetts, to participate in the United Services of New England Matches from July 21 to 27. Although the competition proved to be too great at that stage of the training, the team shot better than a 280 average. The individuals gained invaluable experience in match shooting which will serve them well as prospects for future Cavalry Teams.

Interspersed with the firing of the Springfield, Model 1903, scores were fired with the new M-1 rifle, using an adaption of the national match course. Those members of the squad and pit detail who fired the record qualification course this year made an excellent showing. All will be of great benefit to their regiments, having become thoroughly familiar with the M-1, and having had more opportunity to fire it than they would have had at their home stations.

On September 1st, the Cavalry Pistol Team journeyed to Detroit, Michigan, to participate in the Pre-Perry Pistol Matches, and placed second in the .45 caliber team match.

On September 7th, Sergeant W. D. Reynolds won first place in the Members' Trophy Match with a score of 50 (9 V's). Six other members of the team also placed in the money.

On September 9th, First Lieutenant B. S. Cairns won the Leech Cup Match with a score of 100 (15 V's) at 1,000 yards, beating a field of well over a thousand competitors. Six other Cavalrymen also placed in this match, as did four in the Marine Corps Match.

September 10th, First Lieutenant T. D. Gillis won second place with the service rifle in the Wimbledon Cup Match, with a score of 99 (13 V's) at 1,000 yards.

In the President's Match, Sergeant R. R. Grider won the Cavalryman's Cup for high Cavalryman. Sergeant V. Shantz earned ninth place with an identical score except for the number of V's. In all, fifteen Cavalrymen placed in the President's Hundred.

The Wright Memorial Grand Aggregate Match, a total of the scores fired in the Navy Cup, Leech Cup, Coast Guard Trophy, Marine Corps Cup, Wimbledon Cup, and the President's Matches, was won by Sergeant R. R. Grider.

The National Rifle Team Match found the Cavalry Team beset with ammunition difficulties which ended them up in fifth place, a disappointing finish to an otherwise most successful season.

The list of members composing the Cavalry Rifle Team for 1940 follows:

Team captain, Major Paul McK. Martin, Cavalry; team coach, Major Clyde A. Burcham, 13th Armored Regiment (L); assistant team coach, Technical Sergeant Jens B. Jensen, Cavalry School Detachment; firing members, First Lieutenant Thomas D. Gillis, 14th Cavalry; Second Lieutenant Elwin T. Knight, 6th Cavalry; Master Sergeant Sidney A. Wilson, 10th Cavalry; Staff Sergeant Rosco R. Grider, 14th Cavalry; Staff Sergeant William G. Betts, 13th Armored Regiment (L); Staff Sergeant Victor Shantz, 11th Cavalry; Sergeant Rolland T. Roth, 2d Cavalry; Sergeant Jacob Wlasenko, 14th Cavalry; Sergeant Harold Young, 8th Cavalry; Sergeant William D. Reynolds, 1st Armored Regiment (L); Sergeant Edward Yeszerski, 3d Cavalry, and Corporal James V. Morrison, 2d Cavalry.

National Matches — Finals

First place, Marines; second, Infantry; third, Marine Reserve; fourth, Coast Guard; fifth, Cavalry.

What Would You Do?

Fort Riley, Kansas,
Teenth August.

MY DEAR SPAVIN:

As you and Jeeman, Beltfeed and other officers know, my orders to *Riley* to observe the Corps maneuvers were received with considerable distaste, especially in view of the experiences we have been having with our own regiment. Up to now, I have been unable to see how one of these new-fangled Corps Cavalry regiments would work, what with putting the buggy before the horse, as it were.

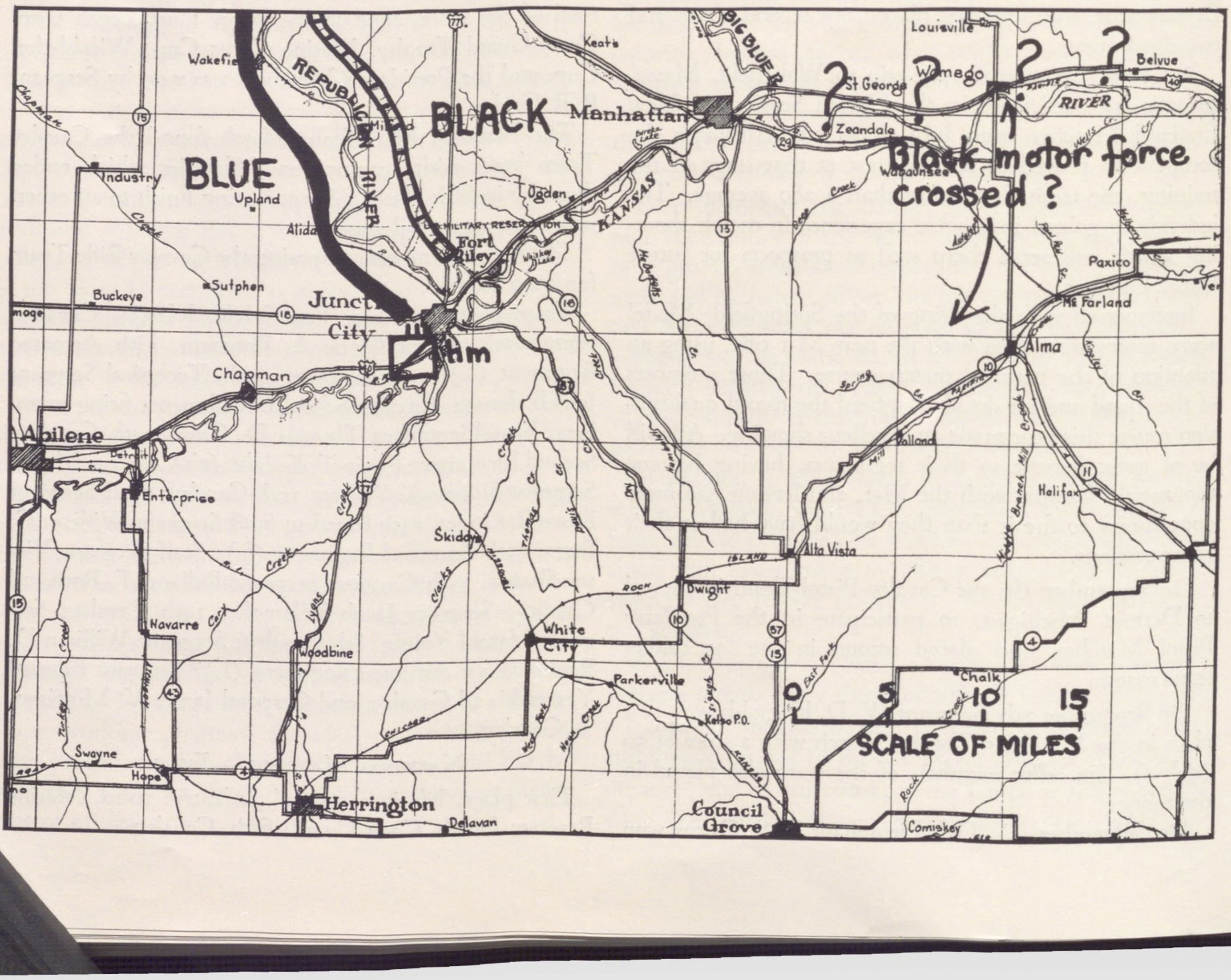
However, I can report that the new regiment is a most interesting outfit. Some think it would be better to have two or three squadrons, each a "reconnaissance team" containing both horse and mechanized troops, while others say they prefer the present arrangement of one horse squadron and one mechanized reconnaissance squadron. Either way you can have a lot of fun with it.

I arrived here at the completion of the first phase of the maneuvers, yet I found the colonel of the Corps cavalry faced with a very pretty problem. To be sure he solved it within a reasonable time though I thought he wasted too much time trying to be tactful to the Corps G-3.

Prior to my arrival the cavalry regiment had been reconnoitering in advance of the Blue Corps east to the Republican River. (See sketch.) Contact with Black had been made along the river line and the cavalry regiment was assembled on the south flank of the Corps, at Junction City, to await orders. At eight o'clock that night, having performed miracles of control by covering a thirty-five mile front, the colonel was only too glad to relax over some of my tequila. However, no sooner had we seated ourselves than the Corps G-3 burst in, all out of breath from riding in the command car. This young man unburdened himself of the following:

"Colonel, our agents report rumors of a strong Black motorized force crossing the Kansas River somewhere east of Manhattan just after dark tonight. It may be a dangerous threat to our south flank especially in view of the low river stage. The Corps commander therefore hesitates to resume the offensive until this force is located. Low ceilings prevent air reconnaissance with flares. A battalion of motorized infantry is being alerted to delay the enemy columns if they are discovered.

"Your regiment will move out at once to locate the hostile force and to report its strength, dispositions and


BLUE
BLACK
REPUBLICAN RIVER
BIG BLUE R.
KANSAS
RIVER
Black motor force crossed ?
?
?
?
?
Manhattan
St George
Wamego
Zeandale
Wabaunsee
Louisville
Belvue
Paxico
McFarland
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Volland
Halifax
Wakefield
Industry
Upland
Alida
Ogden
Fort Riley
MILITARY RESERVATION
Junction City
Sutphen
Buckeye
Chapman
Abilene
Detroit
Enterprise
Skiddy
White City
Navarre
Woodbine
Swayne
Hope
Herrington
Delavan
Parkerville
Kelso P.O.
Council Grove
Alta Vista
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10
15
SCALE OF MILES

direction of movement. Negative information will be reported."

* * * * * * * *

Now, Spavin, a man of your education may one day get on the receiving end of a similar order. Drop me a card and tell me:

WHAT WOULD YOU DO?

Yours,
O. M. RIVERS,
Col. Cav.

A Solution

Out-in-the-Bosque,
Tweenth, August.

DEAR COL. RIVERS:

Please excuse the pencil, but we are in a most uncomfortable bivouac.

We found, due to your excellent training of the regiment, the problem propounded to be rather elementary. I refer, of course, to the reaction to the order itself rather than to the measures necessary to carry it out. The latter naturally form a problem of epic proportions.

On reading your letter to the staff I was greeted with a chorus of highly critical comment. It was immediately realized that the order lacked the WHERE element of the WHAT, WHEN and WHERE that you have so thoroughly preached to our regiment. All of the officers seem to be indoctrinated with the principles of giving reconnaissance agencies specific orders for missions which are within their capabilities. While we would not go so far as to say that G-3's order was beyond the capabilities of the Corps cavalry regiment, we believe that it stretches things a bit.

We agree that we would at once press the G-3 to give specific instructions as to WHERE the reconnaissance was to be carried out. Failing in this we believe that the mechanized squadron should be immediately despatched to reconnoiter the road net to the south, southeast and southwest, with initial priorities to Highways No. 10 and No. 4. We would not portee the horse squadron initially, but would hold it in readiness, awaiting the first reports to come from the mechanized reconnaissance.

It occurs to us that giving the cavalry too much to do has been responsible in the past for much criticism of the arm which should have been directed elsewhere.

JACK SPAVIN,
Major, Cavalry, S-3.

Offsetting Noise in Modern Battle

There has been much comment in the press and on the radio with respect to the terrifying aspects of warfare as it is now conducted. In fact, books are beginning to appear about the war which contain the word "terror" in their titles. Writing in *The Army Quarterly* for July, 1940, Air Commodore P. S. M. Fellowes, DSO (ret.), makes some sound comments on the German use of terror by noise as a weapon.

Air Commodore Fellowes first points out that if we think any noise means sudden pain and death, it tends to cause terror within us. That feeling is all the more intense if we have been led to think "that the louder the noise the greater the chance of hurt and death." The French failed to offset this technique of modern warfare in spite of the fact that it had been clearly demonstrated in the invasion of Poland. "The French are a logical race," he writes, "and if it has been clearly implanted in the understanding of the *poilu* that the mathematical chances of either being hit by a bomb or by a machine-gun bullet from the air are extraordinarily small, particularly if in the case of a bomb attack he were lying in a ground depression or flat on the ground or standing up in the case of machine-gun fire (they seldom happen at the same time), then I believe that the débâcle of the Ninth Army would not have happened."

This writer thinks that lectures should have been given to all troops, not only on the noises of airplanes but also to explain the feeling of an enemy soldier in a tank when that tank knows he is probably running into antitank gun fire or approaching a minefield. "If a man on the ground with a machine gun were only to realize the feelings of the normal man in the air, he would be twice the man in defense and offense."

There is plenty of sound combat psychology in what Air Commodore Fellowes says. The noise of warfare at least is something that we can do a lot to accustom our troops to in their training away from the battlefield and in their peacetime training. Nor is it a small matter. The very contrast between the peacefulness of a peacetime command post, for example, and the same kind of command post in war, has a serious effect upon the conduct of affairs, certainly until a staff gets used to the difference. The combat troops themselves have a little opportunity on maneuvers to undergo a simulation of the noises of combat. But they have far fewer such opportunities than they should have.

This, after all, is a matter of basic military psychology which should therefore be thoroughly studied and then all practicable means of training troops to do their work in war in the midst of turmoil put into effect.

Unit Training Activities

1st Armored Regiment (L)—Fort Knox, Ky.

Colonel A. D. Surles, *Commanding*

Since its return from the Third Army Maneuvers in Louisiana, the First has undergone many extensive changes in organization and personnel. From a strength of 749 men it furnished 100 to the First Reconnaissance Battalion, 1st Armored Division, and 60 to the Second Armored Division at Fort Benning. During the month of June the Third Squadron was organized, Troops "I" and "K" being activated. In July each squadron was further expanded by the addition of a third troop, Troops "A," "G," and "L" being formed. Old Troop "A" was changed to the Reconnaissance Troop. On July 15th, the First Cavalry passed into history and became the First Armored Regiment (Light), with its Squadrons and Troops redesignated as Battalions and Companies.

Recruiting has been carried on extensively during this period, and the regiment even after its losses to other organizations of the Armored Corps, finds itself with a strength of 1,351. Upon the receipt of authorization for the new grades and ratings, 276 promotions in grade were made.

The training objective of the regiment has been to fit itself to take the field on October 1st. With this in view, recruit instruction was held only in the morning, so that the companies could secure their recruits in the afternoons for specialist instruction. Here instruction in driving, the use of weapons, and signal communication was stressed. Due to this varied course of instruction, the enthusiasm and interest of the new men have been restored, and the exceeding low desertion rate testifies to their high morale.

Starting in August, the companies and battalions engaged in tactical exercises, stress being laid on night marching without lights over trails and secondary roads. The supplementary target season in machine gun qualification is now 80% completed. September will see its completion, as well as the courses for the sub machine gun and M-1 rifle.

The Brigade Tactical exercise of September 6th naturally enough disclosed some deficiencies in training, but it was gratifying in that the reinforced regiment was able to move in the dark without confusion, and that all its units arrived at their various destinations at the proper time.

The weekly Division Tactical exercise now being held until October 1st should do much to round the regiment into shape and make it a worthy member of the First Armored Division.

The regiment lost its commander when Colonel Baird moved up to take command of the 1st Armored Brigade. Colonel A. D. Surles was assigned and is now in command. During the last two months we have received forty-seven first and second lieutenants. Before any incoming officer goes to duty, he is given an intensive course lasting two weeks including such subjects as tank driving, use of weapons, and solo motorcycle driving.

The regiment is pleased to state that it has received its first chaplain under its new designation in the person of Chaplain K. W. Schalk, who has entered into the regimental activities with much enthusiasm, and who can hold his own as a tank driver with the best of them.

During all the activity of the summer, the regiment was able to place its baseball team second in the Fort Knox finals, and to win the post track meet on July 20th.

* * *

Fifth Cavalry

Colonel H. J. M. Smith, *Commanding*

The training program of the 5th Cavalry during the months of July and August has been one primarily of preparation for and participation in field maneuvers.

The regimental training program for the first two weeks of July included instruction in the firing of the M-1 rifle, and short daily tactical exercises and drill in extended order formations, involving small units up to and including squadrons. These tactical exercises were executed in close coöperation with the training program of the annual O.R.C. camp, consisting of 42 Reserve officers, conducted by Major James B. Taylor, Unit Instructor of the 1st Cavalry District, 8th Corps Area.

M-1 rifle instruction included firing of the M-1 rifle by all available men not previously qualified. Each man was required to fire approximately 40 rounds at various ranges and in different positions.

The daily tactical exercises were designed to emphasize the mechanics of combat formations under varying conditions. The final exercise involving the O.R.C., was a 3-day tactical hike, consisting of one reinforced cavalry squadron, and one platoon of scout cars.

The training program during the latter part of July consisted of small bore firing by selected men on moving tank targets. The objective being proper leads on moving objects. At least 25 men per troop were given instruction.

The regimental training schedule for the conditioning of men and horses in preparation for participation in the Third Army Maneuvers was not affected by the authorization for the prompt activation of a special weapons troop, the arrival of many new Reserve officers on extended active duty, or the sudden influx of recruits. The authorized strength of the regiment has been increased from 668 to 1,152 men. Men and horses were conditioned by daily road marches and short tactical exercises and extended order drill, involving reconnaissance, scouting and patrolling.

The many new recruits, when received, were quartered in a separate recruit camp and trained for a period of 4 to 6 weeks before being taken up by the organizations for duty. The first two weeks of recruit training were arranged to produce a soldier capable of taking his place in ranks should an emergency arise before his training had been completed. Emphasis was placed on the fundamentals of combat. Specific instructions were given in the use of weapons, marching, obedience, and field duties. The rapidity with which the recruits made themselves proficient and self-reliant in field training was marked. The remainder of the training period was devoted to additional instruction to improve and polish the recruit in his duties as a soldier.

The departure of the regiment from Fort Clark, to Cravens, Louisiana, on August 9th-11th, for the Third Army Maneuvers was conducted as in April when the regiment moved to Jasper, Texas, for Third Army Maneuvers.

Serial No. 1, Motor Convoy, under the command of Lieutenant Colonel H. A. Flint, departed Fort Clark August 9th, arriving at Cravens, Louisiana, August 11th. Serial No. 2, Train No. 1, under the command of Lieutenant Colonel R. L. Creed, and Serial No. 3, Train No. 2, under the command of Lieutenant Colonel R. W. Carter, entrained at Spofford, Texas, railhead of Fort Clark, and arrived at Cravens, Louisiana, August 12th. Upon arrival in Louisiana the concentration of the regiment in the 1st Cavalry Brigade and 1st Cavalry Division was completed.

Throughout the Third Army Maneuvers the missions assigned to the 5th Cavalry were those of screening and flank guard, involving combat outposts and patrolling.

Prior to the departure of the regiment to Louisiana, eight Reserve officers on 28-day active duty reported to the regiment for duty. These officers were immediately assigned to troops for duty. There were also 39 newly-arrived Reserve officers on extended active duty who were given a one-month refresher course in the duties of a troop officer before being assigned to the troops for duty. The officer complement of one squadron then consisted completely of Reserve officers, with the exception of one regular officer.

The Reserve officers suffered very little hardship during maneuvers and received excellent training in the command of troops in the field.

The return trip of the regiment to Fort Clark was made in the same manner as the departure, and all serials arrived at the home station on or before August 26th.

In loading horses for the return trip, the training which this regiment has received in the loading of horses during the past ten months was very noticeable. The time for loading simultaneously four stock cars with 22 horses per car was 4½ minutes. A large factor in this remarkable time was that in as many cases as possible, horses were unsnapped from halter shanks as they came into the ramps and were allowed to enter the car themselves, where they were arranged alternately head and tail by men inside the car.

Reorganization of the regiment, activating "C" and "G" Troops, as well as Special Weapons Troop has been completed since returning. Many changes within the regiment, in personnel, and in housing, have taken place. Troop commanders for these new troops except Special Weapons Troop, were taken from Reserve officers now on extended active duty. In addition to those selected as troop commanders there are at present 15 of the 39 Reserve officers in the 5th Cavalry on duty with these newly organized troops.

The regimental training objective for the month of September stresses preparation of all units to be able to take the field on short notice at existing strength ready to function effectively in combat. Horsemanship, intensive training of squads, platoons, and troops, in close and extended order drill both mounted and dismounted and the care and use of individual equipment constitute the main objectives in the September phase of the training schedule.

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6th Cavalry (H-Mecz)—Fort Oglethorpe, Ga.

COLONEL JOHN MILLIKIN, *Commanding*★

Since our last appearance in The JOURNAL the regiment has been very active.

During April and May it participated in the IV Corps Maneuvers at Fort Benning, Georgia, and the Third Army Maneuvers in the Sabine Area of Louisiana. Reports indicate that the conduct of the 6th Cavalry during these exercises was such as to reflect great credit upon it and the cavalry service as a whole. An account of the regiment's participation has already been published in The JOURNAL.

Upon returning from Louisiana on May 30th after a short period of cleaning up and maintenance of vehicles the regiment plunged into the annual target season, which because of the numerous weapons with which it is equipped is a rather involved affair. Considerable progress was made during June and July although due to the necessity of completing preparations for the maneuvers in August there are still some men who must fire their respective weapons.

A radio school was conducted during this period which produced excellent results in training operators for the new radio sets received early in August.

The long-awaited prime movers for our semi-trailers began to arrive early in July. As they were received and serviced for operation more and more opportunity was given the 1st Squadron (Horse) to perfect its technique in loading and unloading, marching, convoy control, etc. The last of the portée equipment was ready late in July, making it necessary to put in long hours of practice in preparation for departure of the regiment for Louisiana on August 8th.

★Recently promoted to Brigadier General.

The final phase of training prior to this departure took the form of a regimental review in which all elements of the 6th Cavalry participated. The commanding general of the 2d Armored Division, Brigadier General C. L. Scott, a first-line cavalryman, received the review on August 6th after having been escorted from the airport to the post by Troop G (Motorcycle Troop). After all elements had passed in review the Portée Platoon formed in front of the reviewing officer in column of troop sections. At the sounding of "Prepare to Mount—Mount," the 1st Squadron galloped from the woods to the trailers, dismounted, loaded and moved out portée. Spectators, initiated and laymen, agreed that they had witnessed an impressive spectacle. General Scott expressed himself as being very favorably impressed by the showing of the regiment.

On August 8th the 6th Cavalry again departed for the Sabine Area to participate in Third Army Maneuvers as a part of the IV Corps (Blue). Returning on August 25th the regiment is at present engaged in maintenance, completion of the target season and instituting schools and training for the coming garrison year.

With the exception of radio sets and some machine guns the 6th Cavalry is now fully equipped and it looks forward with confidence to whatever duty the future may bring.

* * *

7th Cavalry—Fort Bliss, Texas

COLONEL FREDERICK GILBREATH, *Commanding*

A colorful and dignified ceremony was held by the regiment on September 10th to welcome the new recruits to the regiment. Since July 10th, more than 500 recruits have been taken into the 7th Cavalry. They are still undergoing training but many of them soon will be returned to duty with their troops. September 10th was chosen for the occasion because on that date, 74 years ago, the 7th Cavalry was organized at Fort Riley, Kansas.

The ceremony took place immediately following retreat. The recruits, under the command of their noncommissioned officer instructors, were massed in front of the barracks without interval, ten ranks deep with about fifty men to the rank. The regiment with its organizations commanded by noncommissioned officers was formed on the left of the recruits and at right angles to them. The band was on the right and next to it several tables with regimental trophies arranged around the original painting of "Custer's Last Ride." The guidons for all the troops of the regiment, as formerly organized, carried by first and staff sergeants, were directly in front of the recruits. Officers assembled facing the recruits. Immediately following retreat, the standards were received from the commanding officer's quarters and escorted to their position in the line of guidons to the tune of "The Dashing White Sergeant." After calling the Honor Roll, Chaplain Luther Miller, Corps Area chaplain, said a short prayer for the departed members of the regiment and Taps was sounded. Upon conclusion of this part of the ceremony, General Brees, Corps Area Commander, formerly captain, 7th Cavalry, made a few remarks to the regiment. A short regimental history was read by the commanding officer and the troops dismissed to the tune of "Garry Owen."

* * *

8th Cavalry—Fort Bliss, Texas

COLONEL JOSEPH P. ALESHIRE, *Commanding*

Upon returning from the spring maneuvers the regiment took up its summer duties of assisting in the training of O.R.C. and C.M.T. Camps, and preparing for the August maneuvers. During the latter part of this period recruit training for the expanded regiment began to assume importance.

On August 7th the motors of the regiment, reinforced by approximately 35 trucks from the Corps Area Pool departed for the maneuver area carrying the greater part of the regimental personnel. The regiment was one of five serials marching from Fort Bliss on this date. The regiment arrived at Cravens, Louisiana, on August 11th. Among the lessons learned from the motor march are:

(1) The posting of military police at critical highway points is a great saving of motorcycles and leaves the motorcycles available for messenger duty.

(2) The rate of march of long motor columns is determined by the capabilities of the slowest trucks of the column. On this march it was found that the older vehicles could not maintain a rate faster than about 30 miles per hour in the hilly sections of the march.

(3) In order to prevent long gassing halts it was found desirable to have plenty of gassing outlets when filling from tank trucks and stations. With one outlet for about each ten trucks it was found that a serial could be gassed in approximately twenty minutes.

(4) To avoid excess fatigue to drivers, two drivers should be provided for each cargo vehicle.

In view of the rapidly increasing importance of motors in the movement of horse cavalry it is essential that all cavalry officers learn the rudiments of marching by motor as well as mounted.

The activities of the regiment in the maneuver area, as a part of the 2d Cavalry Brigade and First Cavalry Division will be covered by other reports. One gratifying feature of the maneuvers was open country with little restricted land and few fences, which allowed much movement off roads.

With the return of the regiment to Fort Bliss, on August 26th, the duties of recruit and remount training assumed primary importance.

* * *

10th Cavalry—2d Squadron (Less Troop F) and Machine Gun Troop—West Point, N. Y.

LIEUTENANT COLONEL MARION CARSON, *Commanding*

In discussing training in the 2d Squadron, 10th Cavalry, it must first be realized that this organization of 251 men performs the normal caretaking and house-keeping duties the are performed by sister units at Fort Leavenworth, Fort Riley, and Fort Myer. In addition 289 horses are maintained for the instruction of cadets in riding, as distinguished from cavalry tactics and technique. By far the bulk of the available time in the training year is utilized in these activities.

The training mission is a dual one, and one not generally appreciated nor understood by the majority of the officers who have not served at West Point. Not only does this organization have to conduct purely unit tactical training, but at the same time it must be trained as a demonstration and application unit for the instruction of cadets.

In view of the purpose of the Military Academy this latter mission is indeed the more important. When it is realized that by far the larger percentage of our graduated cadets form their opinions and ideas of the rôle of cavalry from the meager instruction possible at West Point, it should be apparent that this mission cannot be overemphasized. In most cases those who do not select the cavalry will not come in contact with this arm again until they have passed through several grades, to become captains or majors. Hence a faulty or inaccurate understanding of the cavalry arm will not be immediately corrected but on the contrary, will become crystallized, and future teachings may have little effect in correcting this misinformation.

The organization of the squadron includes a rifle troop, an attached machine gun troop, and a detachment of headquarters and service troop. This gives a fairly varied schedule of training for the squadron Plans and Training officer to mull over, and it is further complicated by the large influx of recruits, approximately 39% of the strength of the squadron being in their first enlistment.

The training of these units must be such that a light machine gun platoon, or a war strength machine gun troop can be made available for demonstration purposes twenty to thirty minutes after the last equitation class of the day is ended. These demonstrations are tactical in nature and show the employment of various units by the regiment in attack and defensive situations.

Terrain plays an important part in the planning of training. West Point, being hewn out of the solid rock, offers as poor a piece of terrain for the illustration of cavalry tactics and technique as can be found anywhere. However time prohibits moving cadets any great distance away from the post and so the local terrain must be used.

Demonstrations are staged during the spring to show the various war strength units in a horse regiment up to and including the rifle and machine gun troops. Demonstrations showing organization and armament are followed by those illustrating tactical employment. Portable loud speaker equipment enables the instructor to describe to the cadets what is taking place.

Following this instruction by demonstration, each member of the first class takes part in one of the three field exercises of four or five days' duration, in which he learns to apply that which has been taught in conference, lecture and by demonstration. During these exercises a part of the enlisted personnel is given practical field training in the actual conduct of the marches, bivouacs, and tactical problems. The cadets are organized into two rifle troops, with enlisted personnel manning the light machine guns, to insure their proper functioning. Two-sided problems in the open country northwest of the military reservation, some cross-country riding, and reasonable road marches in daylight and at night, give, in the few days available, a comprehensive impression of the capabilities of cavalry.

* * *

11th Cavalry—Presidio of Monterey, Calif.

COLONEL HOMER M. GRONINGER, *Commanding*★

Amend the old adage to read: "No rest for the Regular Army," then qualify the phrase by inserting the words "11th Cavalry," and you will have pictured the Presidio cavalry regiment's present training schedule for the end-of-the-year period—but by military standards you can chalk it up: Hard at work, as usual!

The regiment, with a good 25 per cent recruits, 60 per cent green noncoms, and with newly-joined Reserve officers outnumbering Regulars at a ratio of two-to-one, has returned to its home station after a month in the field (the fifth such month this year, incidentally) and has plunged into a schedule of intensive basic training designed to bring the command to peak field efficiency by October 31st. With Colonel Homer M. Groninger, regimental commander, unable to direct actual training due to the press of duties as Area Executive for the expanded Monterey military area, the 11th Cavalry will be brought to top form by Lieutenant Colonel John T. McLane, regimental executive. Eleven other Regular Army officers will assist him, serving in key positions on the staff and with troops.

In addition to the intensive basic training program now under way, the regiment will fire all arms in November and will conduct tests for all line troops in the 1940 cavalry leadership competition for small units. Plans have been made, also for a regimental horseshow in October, and a picked team will be entered in the Monterey County horseshow later this month.

Like other older units of the Regular establishment, the 11th Cavalry returns to garrison and training duties to find facilities somewhat restricted. New units have moved in and barracks and training areas are crowded to capacity. In Monterey the newly-formed 7th Division has taken over the Camp Ord military reservation and Division installations have been located at the Presidio. In addition, the Corps Area Reception Center has been expanded to accommodate 1,800 troops, also at the Presidio. Where once it had the "run of the yard," the 11th Cavalry now finds itself hunting new training areas to make way for the newcomers!

★Recently promoted to Brigadier General.

Training has been varied during the past two months. The regiment spent the balance of July directing civilian component training at Camp Ord, as well as assisting in the formation of new units there. In August it moved by rail and motor to Fort Lewis, Washington, where it participated in the Fourth Army maneuvers as part of the northern (defending) force. An account of this specialized training appears elsewhere in this issue of The Cavalry Journal.

During the past two months, losses in Regular Army officer personnel have been heavy. Officers who have departed on new assignments include Lieutentant Colonel C. H. Gerhardt, Major G. B. Guenther, Major J. L. Glasgow, Captain Frank J. Thompson, Captain A. E. Harris, Major F. C. DeLangton, and Lieutenants Thomas Chandler, Cecil Himes, D. W. Thackeray, Charles Walson and R. B. Hale. Also, more than 40 men have been furnished as cadres to new units, and half of this number has been senior noncommissioned officers.

In the Camp Perry matches recently completed, the 11th Cavalry team placed fourth in rifle competition and seventh in pistol among the cavalry outfits competing. Sergeant Victor Shantz, Troop B, consistently was the high rifle shot throughout the series of matches.

* * *

12th Cavalry (Less 2d Sq.)—Fort Brown, Texas

Colonel Arthur E. Wilbourn, *Commanding*

Since the last issue of The Journal, there has been or will shortly be assigned to the regiment 12 Reserve officers on extended active duty, 397 recruits and 120 remounts.

The current training program aims to provide for the continuation of unit training and the completion of the individual training of these replacements and additions in sufficient time to permit their basic training in units before the end of the training year, November 30, 1940.

The above is provided for as follows: Squadrons, less those individuals engaged in range practice, to continue unit training. Range practice for all who failed to fire during the regular season. Combat firing. Additional instruction practice with all arms for those who fired during the regular season. A thirty-day refresher course for Reserve officers on extended active duty. Recruit training and remount training.

The War Department has allotted funds to the extent of $100,000.00 to provide additional housing for both men and animals for the Special Weapons Troop and "C" Troop, both of which have been activated and are up to full strength as far as men are concerned.

The bids for the building are now in the hands of the civilian contractors and as a result actual building will start soon. At present it is contemplated that the new building for both men and animals will be completed by December 15, 1940.

2d Sq., 12th Cavalry—Fort Ringgold, Texas

Lieutenant Colonel Frederick R. Lafferty, *Commanding*

Participation in the III Army Maneuvers during the period August 11th to 26th served merely as a quiet prelude to the present activity of the 2d Squadron, 12th Cavalry. Activation of a third troop, G Troop; command of which was given to Captain Chandler P. Robins, and the whipping into shape of one hundred and fifty recruits were the major problems confronting Lieutenant Colonel Frederick R. Lafferty, who assumed command of Fort Ringgold from Major Charles V. Bromley only two days prior to the departure of the squadron on maneuvers.

As no facilities for housing G Troop were available a tent camp was built and mess hall, dayroom and orderly room facilities were provided by the temporary rehabilitation of the ground floor of an abandoned barracks building.

Shortage of arms and equipment has forced concentration on recruit training in order that the recruits may be returned to duty as rapidly as possible to facilitate the reorganization within the separate troops made necessary by transfers of personnel to G Troop. This intensification of recruit training which is being carried on by the individual troops has resulted in all the more experienced enlisted men being given the opportunity to act as instructors. As a result the capabilities of a much larger number of men than is ordinarily possible have been determined, thereby facilitating the formation of trained cadres should this squadron be called upon to furnish them in furtherance of the present expansion.

A definite problem in the instruction periods has been the fact that a large number of the recruits are of Spanish-American descent and have a very poor understanding of the English language. This has been offset in a degree by requiring that no Spanish be spoken within the troop areas thereby forcing the men to familiarize themselves with English. One feature of the enlistment of these Mexican youths is that it has stimulated interest and better feeling among the townspeople of our neighboring community, Rio Grande City, a predominantly Mexican town.

The training program for the next two months will include, in addition to tactical problems and a supplementary target season, a series of schools for both officers and men in radio, motor transport, administration, tactics and other subjects, with great stress to be given to instructional methods so that a large number of competent instructors in all subjects will be readily available.

* * *

13th Armored Regiment (L)—Fort Knox, Ky.

Colonel J. W. Heard, *Commanding*

Ever since the return of the regiment from the Louisiana Maneuvers, changes have taken place so rapidly that it has been difficult to keep apace. The expansion of the 13th by two additional combat car troops and the transfer of 90 men to form the Brigade Reconnaissance Squadron had hardly taken place before the formation of the Armored Force.

This necessitated the formation of 3 additional "light tank companies" and the transfer of one complete platoon, with vehicles, of the Machine Gun Company; and a complete platoon, with vehicles, of the Reconnaissance Company, to Fort Benning, Georgia.

Due to this expansion, the regiment has more than doubled in strength, having at the present time 79 officers and 1,450 enlisted men.

The training of recruits and numerous specialist schools have taken much time, but in spite of this the regiment has given a series of demonstrations for new officers and other Armored Force personnel, which culminated on August 30th with the entire regiment, supported by artillery, infantry, engineers and medium tanks in an exercise using ball ammunition, in the attack.

The supplemental range season is underway—each battalion with attached organizations being allowed one week to complete machine gun and pistol firing.

* * *

14th Cavalry (Less 1st Squadron and Band)—Fort Riley, Kansas

Colonel A. H. Wilson, *Commanding*

The 2d Squadron, 14th Cavalry, stationed at Fort Riley, Kansas, departed for the IV Army Maneuvers in Minnesota, July 16th, and arrived at Onamia, Minnesota, the following day.

The interval between the date of arrival and the opening of the maneuver was devoted to conditioning horses and a thorough reconnaissance of the maneuver area. Troops were sent out, the first week individually on overnight bivouacs, and devoted the day to reconnoitering the area assigned to them.

Advantage was taken of the numerous large lakes to spend considerable time in swimming horses. This gave the needed exercise without subjecting them to the hard gravel roads to which the cavalry was more or less limited.

The second week of the preliminary training was devoted to squadron problems, emphasis being placed on the handling of patrols, the conduct of the point, and care being taken to see that each noncommissioned officer and private was familiar with the situation before the problem commenced.

Extreme care had to be exercised to see that messengers and small patrols sent off to the flanks did not gallop their horses. Trouble was also experienced in getting correct information from front to rear. However, these small difficulties were all ironed out during the preliminary training, and men and horses were in good condition at the opening of the principal maneuver.

This problem started August 11th and continued on through August 16th without an armistice. The first night of the principal maneuver the cavalry formed a counterreconnaissance screen for the 35th Division, the squadron being on the south flank. Later the squadron was drawn off and guarded this flank. The road net on the south flank consisted of good east and west gravel roads and poor north and south dirt roads. The remainder of the terrain was more or less impassable due to swampy and thickly wooded ground. This condition resulted in a defense of cross roads and road junctions, with particular attention to hostile scout cars. Throughout the entire maneuver the conditioning period showed to good advantage as there were no casualties among the men or animals, although the troop maneuvered and marched 61 miles in 23 hours and went into bivouac without losing a single man or animal.

Many important lessons were learned during the maneuvers, one of which was the importance of questioning prisoners before sending them to the rear.

Another valuable lesson was learned by the S-4 concerning the difficulty in bringing up rations and supplies after dark during heavy rains.

This was the first opportunity the squadron had to operate under full field conditions and they returned to their home station, with horses hardened and officers and men filled with valuable experience.

* * *

26th Cavalry (PS)—Fort Stotsenburg, P. I.

Colonel Robert Blaine, *Commanding*

Our annals are brief, and soggy with rain. The regiment was to have participated in a parade in Manila July 4th; we marched down in three days through a steady downpour, remained in Manila for three days with rains steadily increasing. Then the parade was cancelled, and we portéed home, the quartermaster truck working day and night to the credit of its commander, Captain W. W. Scott (FA). As the last serial pulled out, the one remaining visible portion of the campsite disappeared under the waters. Deepest points were well over two feet.

Our efforts this summer have been directed towards the training of the last batch of remounts (under the direction of Lieutenant H. J. Fleeger), mechanical and tactical training, the scrutiny of the records and consideration of the capabilities of our noncommissioned officers, with the resultant reduction of several. "Maximum Attendance Training Days" have been instituted by Colonel Blaine (also Post Commander) that permit the full strength of the troop to attend the tactical training of those days.

We announce with regret the death of Corporal Pedro Aquino, Troop "B," killed by a horse's kick, in line of duty.

* * *

306th Cavalry—Baltimore, Maryland

Colonel Matthew F. James, *Commanding*

Officers of this regiment had a variety of active duty training this summer, C.M.T.C. duty, training with the

Armored Corps at Fort Knox, Kentucky, and in the maneuvers in New York state.

Under the command of Lieutenant Colonel Edward B. Harry eleven officers reported to Fort Belvoir, Virginia, on July 3d for training of the C.M.T.C. This period was devoted largely to military training, only the Red students having athletics on Wednesday and Saturday afternoons. This duty is most beneficial to all and the extra details and work not found at tactical camps is more than compensated for by the satisfaction of a job well done. Captain Henry G. Sheen commanded Troop "E," and First Lieutenant Robert W. Castle commanded Troop "F." Other officers who attended this period were: First Lieutenants Roue Hogan, Thomas E. Jarman, Jr., Daniel Leary, Frederick Magers; Second Lieutenants Paul Byrne, Merton Church, Gilbert Layton, John H. O'Donovan, Jr., and William Shreve. On July 15th our friends from Virginia, the 307th, took over this duty.

Captain Graham Dukehart trained with the First Armored Corps (formerly the Mechanized Cavalry) at Fort Knox, Kentucky, and was assigned to the 462d Reconnaissance Squadron.

In the New York maneuvers, Lieutenant Colonel William H. Skinner was umpire with the 103d Pennsylvania National Guard Cavalry, Major Edward A. Kane was umpire with the 104th Pennsylvania National Guard Cavalry. Major Vernon J. Blondell was Assistant Provost Marshal of the Maneuver. The following officers were attached to the 103d Pennsylvania National Guard Cavalry: Captains William Irby, Alexander Stewart; First Lieutenants Paul Mitchler, Kenneth White; Second Lieutenants Richard Washington, Roland Wockenfuss.

The stations of officers of the regiment ordered to active duty with the Regular Army are as follows:

Fort Knox, Kentucky—First Lieutenants Frederick Magers, Ford E. Young, Jr.; Second Lieutenants Robert Beziat, Edward T. Clark, Jr., Paul Byrne, Gerald Gowell, Richard Preston, Frederic Smith.

Fort Riley, Kansas—Second Lieutenants William Cassedy, Ferdinand Schneider.

Fort Myer, Virginia—First Lieutenant James Daniel, Second Lieutenants Fred Hughes, Oliver Walcott.

Headquarters, Baltimore Reserve District, Baltimore, Maryland—Major Vernon J. Blondell.

Recent changes in the regiment. Assigned: Captain Herbert Bearce, First Lieutenants Stanley Canfield, Jerome Ennis, Edward Renn, Louis Roberts, Asron Ulm, Thomas W. Walton, Jr., Morris Pollard, Vet-Res.; Second Lieutenants Richard Washington, Gerald Gowell.

Relieved: Captains Walter Fuller, Yorke Mills, Clarence Wilcox; Second Lieutenants Pearson Brown, Lloyd Griffin, Joseph Riggs, Wallace Woodward.

Major James T. Duke who was assigned as unit instructor of the 306th in June has been relieved of this assignment and will be succeeded by Major Donald R. Dunkle about September 15th.

* * *

308th Cavalry—Pittsburgh, Pa.

Colonel George H. Cherrington, *Commanding*

As this is written, many of our officers have just returned home after a three weeks' participation in the First Army Maneuvers in northern New York. In the past this regiment has always been proud of the large percentage of its officers who have had active duty each year. This year many qualified officers were not ordered to these maneuvers through no fault of their own. The announcement calling for applications stated that officers could apply for 14, 21 or 28 days duty. As a result, many who get only two weeks vacation applied for this period, made purchases of extra items of uniform and new field equipment not ordinarily necessary for summer camps—and then did not receive orders. These officers were later told that applications for two weeks were not being considered but it was then too late to submit new applications for a longer period. It is hoped that in the future the policies of the War Department may be given sufficient publicity that this loyal group may not be faced with a similar situation and that their enthusiasm for military affairs may not be lessened by this unfortunate occurrence.

Most of the officers of the regiment who attended these maneuvers were under the personal observation of Colonel George H. Cherrington, regimental commander, who was senior umpire with the Blue cavalry forces and who expressed himself as being entirely satisfied with the way his officers discharged whatever duties were assigned to them.

Many experiences arising out of this taste of life in the field are being told and all who participated agree that they are glad that they took advantage of the regiment's training facilities to improve their physical condition prior to reporting. These officers are also convinced that horse cavalry still has its place in the scheme of national defense and are hopeful that in the event of a mobilization this regiment may be permitted to function as a unit.

The regiment lost its unit instructor last July when Major Leslie F. Lawrence was ordered back to Fort Knox where he is conducting a Signal School. Major Alladin J. Hart has been assigned as our new unit instructor, but is not expected to report here until the termination of his present leave. In the meantime, Captain J. T. Ross, regimental plans and training officer, is preparing the schedule for the first phase of the inactive status training period this fall. This schedule will include a series of conferences based on the recent maneuvers and also the regular two periods of mounted instruction weekly.

Book Reviews

CANADA, EUROPE AND HITLER. By Watson Kirkconnell. Toronto Oxford University Press. 1939. 213 pages. $2.00.

The title of this absorbing volume might well have been "Canada, *The United States of America,* Europe and Hitler." In view of recent events, it clarifies some of the paramount, complex, and fundamental issues, both national and international, that similarly now confront the whole of the Western Hemisphere.

The facts and opinions presented by the author are derived in considerable measure from extensive European travel, especially his visits in 1938 in Germany, Czechoslovakia, former Austria, Italy, Jugoslavia, Hungary, Rumania, Poland, Freistadt Danzig, East Prussia, Lithuania, Latvia, Estonia, Finland, Sweden, Norway and Denmark; also, from a rather extensive contact with the vernacular press of the various European groups in Canada. Printed source material is indicated in the partial bibliography at the end of the volume. The author's thought-provoking analysis of Nazi Racial Dogma is eloquently worthy of considerable reflection; for example, "The vital thing to remember is that there is no 'Anglo-Saxon race,' no 'French race,' and no 'German race,' but only national states bearing these several adjectives."

"Community of language, the instrument whereby men are able to share their thoughts and emotions, is a much more prevalent element in nationality. There is a very primitive impulse of indignation when groups of alien speech settle in a community of comparatively homogeneous speech; and in predominantly bilingual countries such as Belgium and Canada, the main line of division and friction is a linguistic one."

Throughout Part One, "Europe Faces Hitler," and Part Two, "Canada Faces Hitler," the author's thesis is profoundly compelling and illuminating, and one clearly understands why, today, nations having a republican form of government, are the objects of an evil and inexorable attack, against which we must defend ourselves and our civilization.

F. S. J.

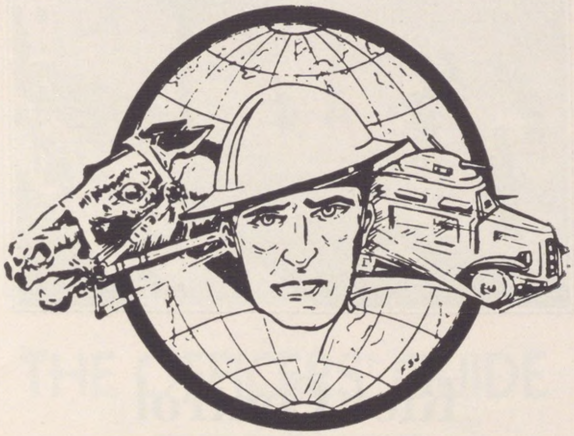
* * *

THE IMPERIAL SOVIETS. By Henry C. Wolfe. Doubleday, Doran and Company, New York. 1940. Illustrative maps. 294 pages. $2.50.

Brilliantly journalistic in style, fascinating in its lucid realism, plain-spoken and impartial, this book pertinently presents the background of relations between Berlin and Moscow; essential to a complete understanding of that which is transpiring today.

Even while Germany's propaganda machine was thun-

Cavalry Combat



THIS VOLUME has its appeal to the more experienced officers who usually are concerned with the command decisions. Likewise, the younger officers, who may be more interested in the smaller units, are rewarded with numerous heroic incidents—colorful accounts of World War cavalry action — the human element — the mental confusion and great uncertainty ever present on the battlefield. . . .

This is not a volume of classroom platitudes—nor is it a blaring battle cry, but a comprehensive presentation of cavalry operations and combat that illustrates by differentiation and appropriate discussion, the correct interpretation of sound tactical principles.

As the narrative develops, cavalry is seen at the charge; it is shown on foot, fighting as doggedly as infantry; it is found afar on its own, or elbow to elbow with other arms; it breasts the snows of winter, treads the desert sands, climbs the mountains and crosses the plains, it suffers, and again it thrives; it gathers the fruits of victory with an exultant shout, or gallops into a forlorn hope to save a war.

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Few modern books enable advance preparation for the efficient performance of riot duty. Major Wood's manual provides practical suggestions for the organization and training of National Guard Units and describes certain weapons, chemical munitions, and special equipment that will greatly assist in effecting prompt restoration of order.

This manual does not deal with large units; it presents the problems of riot control from the viewpoint of platoon, company, and battalion or squadron commanders who, with their peace strength units, suddenly find themselves pitted against a mob. Contains 33 illustrations of riot scenes, weapons, and tactical formations.

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dering at the threat of communism, Mr. Wolfe in his *The German Octopus* predicted the unbelievable partnership between Germany and Russia. In this book, he forecasts the future of the Russo-German coalition; and incidentally, the Japanese and Italian relationship to this axis. From this exposition of a wealth of fact, and conjecture as a result of the author's personal experience, one gleans the answer to the question as to which of the two colossal revolutionary imperialisms will gain control of the other.

For the student of international politics, this is a MUST book. F. S. J.

↑ ↑ ↑

BARBED-WIRE ENTANGLEMENTS. By Major General Paul B. Malone, U. S. Army, Retired. Stackpole Sons, Harrisburg, Pennsylvania. 397 pages. $2.50.

General Malone, who needs no introduction, has added another ace military novel to his already imposing list. We remember his other books: *Winning His Way to West Point, Plebe at West Point, West Point Yearling, West Point Cadet,* and *West Point Lieutenant.*

Barbed-Wire Entanglements, however, carries with it a very definite moral and patriotic message—"Keep America Out of the Barbed-Wire Entanglements of European Diplomacy and Battlefields!" In this thrilling story one relives those breathless days in 1917 and 1918—during America's frenzied preparation for war and heroic struggle in France. Here, the author's hero of his other books, Douglas Atwell, appears in command of a regiment of fighting Yanks. The simple and touching love stories of young American soldiers and nurses against a background of army organization and training, of marching men, roaring guns and bloody hand-to-hand encounter, of tender care for the wounded and dying, of foreign intrigue by both friend and foe, holds timely appeal, especially to those of us in our military service.

F. S. J.

↑ ↑ ↑

THE FIFTH COLUMN IS HERE. By George Britt. New York: Wilfred Funk, Inc., 1940. 124 Pages. $1.00.

Here is a collection of Fifth Column information, with names and places, prepared mainly from various newspaper articles written by the author. A lot of well-known and somewhat aged Trojan horses are included, with a number not so well-known thrown in for good measure.

Mr. Britt's breath-taking style is perhaps better suited to the Sunday papers, but what he has to recount will bear plenty of repetition, regardless of the manner in which it is told. The answer to the Fifth Column, says Mr. Britt, lies in making our country "strong not merely in arms but in tough unselfish courage. If we can achieve real dedication to our historic rôle, the details of suppressing a Fifth Column can be arranged. The real decision for security in a hostile world is that we shall match our wealth and favorable location with an original zeal for liberty and equality, and a flaming readiness to battle for that inheritance." He does not go into any great detail as to anti-Fifth-Column measures.

* * *

BRITISH RELATIONS WITH CHINA: 1931-1939.

By Irving S. Friedman. International Secretariat. Institute of Pacific Relations. New York. 255 pages. Selected bibliography. $2.00.

This book is a presentation of Far Eastern politics, Great Britain's Chinese policy, and Japan's process of closing the Open Door in China. The author traces in detail the reactions of the British government and British business groups in China to the successive steps of Japanese expansion, and examines the basic characteristics of the British economic and political stake in China.

Dr. Friedman is on the faculty of Brooklyn College and has been a research fellow in the International Secretariat of the Institute of Pacific Relations.

The purpose of this study is to provide an impartial and constructive analysis of the major issues which may have to be considered in any future adjustment of international relations in that area—to focus available information on the present crisis in forms which will be useful to those who lack either the time or the expert knowledge to study the vast amount of material curently appearing in a number of languages.

This authoritative study stands preëminent in its specific field. F. S. J.

* * *

THE DYNAMICS OF WAR AND REVOLUTION.

By Lawrence Dennis. The Weekly Foreign Letter. New York. 259 pages. $3.00.

Here is a book which requires an author's explanation . . . and contains one:

"*The Dynamics of War and Revolution* was printed, bound and ready the middle of May for publication by one of the country's oldest and largest publishing houses, a firm which published two earlier works of the author: *Is Capitalism Doomed?* (1932) and *The Coming American Fascism* (1936). Came the Battle of France and the Fifth Column hysteria in the United States. The publishers made a last-minute decision not to publish the book. Thereafter, for six weeks the author unsuccessfully sought a publisher. In the meantime, he bought from the publisher the plates and books already printed and bound under the imprint of the publisher. The author has had these books rebound and is now offering the work to the public under the imprint of *The Weekly Foreign Letter*, a private publication which he writes and mails weekly to a list of paying subscribers."

The author further explains . . .

"This book needs an introduction (1) to anticipate certain easy misconstructions of its major theses and, (2) to set the reader straight from the start as to the author's attitude and purposes.

"First, let it be said that I am undertaking to explain rather than to advocate (1) the current decline and fall of

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The Cavalry Journal

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capitalism and democracy; and (2) the new revolution which is world-wide and just beginning in this country. I do not seek to show what can or should be done (1) to save democracy and capitalism or (2) to stop the new revolution. I am concerned only over what can and should be done for the best interests of the American people, not of a system, during the developments which I consider inevitable and already in progress.

"Second, I argue that permanent social revolution is the only alternative to stagnation, pointing out that democracy, or capitalism on its economic side, was a great revolution and is fast becoming only a great legend. In so doing, I seek to explain the new revolution in various countries as a great and more or less inevitable process of social change the world over. I shall, therefore, probably be accused, though wrongly, of defending all revolutions and everything done in each one of them. I do not say that all revolutions are absolutely good. I say merely that any revolution that is big enough will end stagnation which is the essence of the social problem of today.

"Third, as to war, I hold it probable that nothing can keep America out, and that our going to war will prove futile for the purposes for which we shall fight because, in going to war against the Have-nots, we shall be fighting a world revolution abroad only thereby to bring about here the same revolution which I consider inevitable everywhere. I am in favor of the revolution here but deem the war way of bringing it about regrettable though inevitable in the present emotional attitude of the American people toward world events. . . ."

For those who still have an open mind as to trends and possibilities, it may be well to read this provocative analysis. At least one thing is assured its reader—this author, a World War I infantry officer and later for seven years a member of of the U. S. Diplomatic Service, makes one stop—look—and THINK. F. S. J.

* * *

Service Journals

For the convenience of our readers, the following list of contemporary Service Journals is furnished. The address is Washington, D. C., unless otherwise indicated:

Army and Navy Journal, 1701 Connecticut Avenue.
Army and Navy Register, 511 — 11th Street, N.W.
Army Ordnance, Mills Building.
Cavalry Journal, 1624 H Street, N.W.
Coast Artillery Journal, 1115 — 17th Street, N.W.
Field Artillery Journal, 1624 H Street, N.W.
Infantry Journal, 1115 — 17th Street, N.W.
Leatherneck, 8th and I Streets, S.E.
Marine Corps Gazette, Marine Corps Headquarters, Navy Building.
Military Engineer, Mills Building.
Military Surgeon, Army Medical Museum.
Naval Institute Proceedings, Annapolis, Maryland.
Quartermaster Review, 923 — 15th Street, N.W.

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Not only during his period of service or immediately after discharge does the Red Cross have an interest in the man in the Army or other branch of the armed forces. In fact, this period might be said to be only the beginning, for from the time of his discharge or retirement until his dying day, the ex-serviceman has a first lien on the services of the Red Cross.

Several years ago a staff member of the San Diego, California, Red Cross chapter became aware of the case of Andrew Jackson, a rancher living near the city, who was endeavoring to obtain a pension for his services during the Indian campaigns of the '70's.

Papers were prepared and finally sent to the Veterans Administration in Washington. But because of the veteran's great age, he claimed at the time to be 104 years old, and a consequent lagging memory, Jackson failed to mention that he had also, at times, used the names of Andrew White and Bill White.

Records of the 10th Cavalry, with which he served against the Indians, did not disclose a trooper named Andrew Jackson. Finally the Red Cross ascertained that Jackson had used the other names at times. The case was reopened while the Red Cross traced the records for an Andrew White or Bill White. The former name was found on the muster rolls, and a $50 a month pension was granted.

A wound received in action as he was carrying the troop's guidon further established his claim. The index finger of his left hand had been shot off by an Indian's bullet.

The expansion of our armed forces now under way means a material increase in the work of the Red Cross. All of the organization's work, whether aid to service men and veterans, disaster relief, instruction in swimming, life saving and first aid, or any of a number of others that are provided on a local and national scale, are supported from small annual membership dues, voluntary contributions and gifts. Each year during the annual Roll Call, thousands of service men affiliate with the organization knowing that in doing so they are taking some part in its far-flung activities.

The annual membership campaign begins November 11 and ends November 30. During that period every Cavalryman, no matter where stationed, is urgently invited to join the Red Cross.

Foreign Reviews

Intelligence in War

By Lieutenant Colonel H. G. de Watteville, C.B.E. (late R.A.)[*]

In times of peace, Intelligence suffers from most severe handicaps, since it is only possible to carry out theoretical exercises in wartime Intelligence when no enemy is present. This does not, of course, offset those duties that are connected with counter-espionage or the collection of information concerning the armies and navies of potential enemies, for this class of work must be done in peace and will also be continued after any outbreak of hostilities, although the whole scope and manner of the work naturally suffers from certain danger. But let us treat the matter from the point of view of the fighting troops.

In wartime it is as well to start from two principles which affect not only the entire practice of Intelligence duties but also the training which it is necessary for most men to undergo in order to fit themselves as Intelligence agents of any class. The first of these principles is:

> *You will never obtain good Intelligence except by force or by fraud.*

The second is:

> *The more you know the more you can get.*

Just think what the real meaning of the first may be. It is obvious that in war an enemy will never willingly allow you to find out anything about himself which can help you and may harm himself. Therefore, unless you discover something by accident which has slipped through his protective measures, as for instance information which escapes his censorship, you may obtain very little that is of value—except by force, that is in the field; or by fraud, that is by secret service.

There does exist a quantity of information, however, which it is impossible for a belligerent to conceal, such as the observations brought back by neutral travellers or business men during a sojourn in a belligerent country. Besides which no country can, under modern conditions at least, isolate itself permanently from neutral countries, if only because foreign trade must be kept going in order to pay for a substantial part of the cost of the war. A mass of other information will find its way into the neutral countries. Every belligerent will maintain a large staff of experts to go through some of the neutral information and every obtainable neutral paper daily to comb out information of value. A real danger exists that efforts of the most ingenious nature will be made by every belligerent to introduce statements, or even mere rumors, into neutral countries which are calculated to mislead their enemies. The amount of information of doubtful value that is disseminated in the press (neutral and otherwise) is amazing. There are moments in war when the press is so full of doubtful and contradictory reports that it becomes hard to know what to believe. This, however, is all information that does *NOT* concern the fighting troops.

The latter, as already stated, are mainly concerned with the information that can be gained by force; that is by actual contact with the enemy, or by aircraft reconnaissance and photography. Actual contact with the enemy will yield prisoners, captured documents, reports of patrols, of listening posts and the like. In many respects this type of information can be most useful from the point of view of immediate value since it is, so to speak, "fresh from the cow," whereas all information that comes to hand from behind the enemy front may take a very long time to reach the fighting troops. Another form of information which can be acquired by the fighting troops is that collected from a civil population that has been affected by the operations; this would happen chiefly in the case of a retreat by the enemy; such were the evacuees of the Great War.

The value of aircraft information is immense and indispensable although it is, of course, somewhat limited in scope. Aerial photography is a case in point. It is very seldom that photographs can be taken from low altitudes; they cannot be taken at night when important troop movements nowadays would so often take place. Sometimes the weather may prevent aircraft from going up at all; or if they do go up they may be unable to see anything of value. Lastly it requires a trained personnel to decipher the results. Pilots' observations are nearly always valuable.

Prisoners of war can be a most prolific source of information. But here again trained officers are really necessary in order to profit to the full from such prisoners as will really talk. In the first place a really high standard of familiarity of the prisoners' language is needed, and this must be supplemented by some knowledge of the prisoners' army and its habits. Many prisoners will speak; but the danger always exists that they may be wilfully stating untruths, generally from motives of patriotism, but not infrequently because they imagine that they can obtain preferential treatment from their captors by so doing. Deserters, also, are very dangerous subjects; while cases have been known where a patriotically minded man will allow himself to be caught and pose as a deserter in order to spread false statements among his enemy. If troops make any prisoners, the latter should, where circumstances allow, be first searched for papers and all belongings that might be of Intelligence value. If a raid is being carried out for identification and a few men are taken, it is important to take these precautions and if possible to isolate the prisoners so as to prevent their concocting a common tale. But when the battle is lively or prisoners numerous it may be difficult to do anything like as much. The best thing is to follow the instructions of the general staff, or of the Intelligence Officer who is looking after the operation, concerning the management of the prisoners.

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[*] The author was prominently connected with Intelligence Work during the Great War.

It is astonishing what value may be extracted from seemingly worthless items that may be found on prisoners. On one occasion the discovery of a whole series of tramway tickets in the purse of a prisoner, which he had put away during his last spell of leave, led to an interesting piece of Intelligence being acquired. It is from such trifles that the Intelligence Officer works. By piecing together the little facts that can be gleaned from air photographs, patrol reports, prisoners of war and captured papers, it is often amazing to see how complete the picture is that can be reconstructed by a trained Intelligence mind. It is for this reason that we say *THE MORE YOU KNOW THE MORE YOU CAN GET*. For the first thing that the trained Intelligence Officer does is to check any new information that comes to hand with what he already knows. This process of cross-checking is the rudiment of good "I" work and it is only to be carried out by one who has access to all facts that are already known. Consequently fighting troops are well advised to allow the Intelligence staff every chance of doing their work properly without their prospect of obtaining valuable results being spoiled by the "raw material" having been tampered with. It may be extremely tempting to an officer, who has some familiarity with a prisoner's language, to start talking to him or going through his belongings. There are cases where, owing to pressure of time or other reasons, such a proceeding is unavoidable or even advisable. But on the whole fighting troops would be well advised wherever possible to let the Intelligence Staff have a clear run at what is after all the specialist's job.

The other side of Intelligence work—and this only affects fighting troops in a different fashion—is that which affects "security," that is it attempts to defeat the enemy's intelligence service and to prevent all leakage of information that might percolate through to the enemy, either through neutral countries or by indiscretion at home. It is this side of Intelligence that imposes all controls on the home country—also on the troops on the field—such as censorships, passports, the sale of picture postcards, etc. But as these controls form no part of the troops' duties there is no need to deal with them in more detail.

Now let us see how the fighting troops can assist in the efficient working of their own Intelligence Service. First, by the diligent and careful collection of information when on patrol or on like duties. Secondly, by careful treatment of prisoners, as instructed by the Intelligence Staff, the careful collection of prisoners' belongings and above all a complete abstention of taking shoulder straps and other identification marks or papers from them. This is most important.

Next there is the compliance with all those measures of security such as discretion in conversation, particularly when on leave or in foreign trains and estaminets: strict observance of censorship rules. It must be understood that these precautions are all being taken for the increased safety of the troops themselves. Often, as we know by experience, we have by these lapses of discipline on the enemy's side in the Great War, been able to take advantage of the knowledge so gained. So why make a present to the enemy of a ready-made chance of doing the same to yourself. It is often said what chance can there possibly be of gossip in an estaminet coming to the enemy's ears? A study of secret service reports and of other information collected since the Great War is a revelation of how such gossip repeated from one place to another finally came to the enemy's ears. As a Japanese military history book put it after the war against Russia in 1904-05: "The surest source of information we had came from those white-faced chatterers in St. Petersburg (now Leningrad)."

Lastly if a man has the misfortune to be taken prisoner let him remember that he is legally bound to give his captors nothing more than his name and number in his regiment. His captors may bluster and threaten, but a prisoner should resist such demonstrations. Let him also remember that he may be placed in rooms where there is a listening apparatus concealed in the wall. Lastly that a bogus prisoner may be introduced in the same room where a number of captives may be housed. In every case, unless a man is perfectly sure that he is not being exploited in some way or another, let him beware and keep a firm hold on his tongue.

One last word. Leave secret service most severely alone. Secret service is a most tricky subject and is so difficult to deal with that it can only be touched by men who have spent years on it. The Intelligence Officers who deal with troops have nothing to do with it. Remember that no officer or man who wears uniform in the field ever goes near secret service. Above all, never go home and brag about being employed on secret service; you will only get found out if you do.

—From *The Gunner* (England).

* * *

The Empire Rally

One of the most striking phenomena of the war to those who have eyes to see and minds to reflect, must be the presence among us, at this hour of the greatest peril to which our country has been exposed since the days of the Spanish Armada over three hundred and fifty years ago, of so many thousands of our overseas kinsmen in arms. One sometimes wonders what is the magnet that draws these men hither to help serve and save a country that to them must be little more than a name, though that name be the dear name of home. Whatever it be, it is something that no foreigner can understand—and small wonder, for we can hardly understand it ourselves, nor can our kinsmen explain it to us—it just is so, and there is an end on't. How many prophets, long before Hitler, have confidently foretold the deliquesence and unreality of that ramshackle business, the British Empire, and how signally their words have always been falsified in the day of peril and of war. Words are inadequate to express our thanks to these kinsmen of ours for their very present help in trouble. We are none of us good at thanking or being thanked anyway, but let not what is unsaid in the way of gratitude pass for being unfelt. And if our kinsmen say, as many of them tend to do, "That's nothing," or "It's only natural," we must politely ask leave to disagree. So far from being "Nothing," it is something of inestimable value; so far from being "natural," it is the dismay of our enemies and the wonder of the world.

Let us briefly summarize what the Dominions have done for the Imperial cause to date.

Canada was the first to send her troops to this country at the end of last year, and the fourth of her contingents, belonging to the 2nd Canadian Division, arrived only a few weeks ago, at the end of June. The whole of the 1st Division is now here, and the greater part of the 2nd Division will eventually come to complete the Canadian Corps, though this will probably not be for some weeks yet to come. As at present arranged, no more forces will be sent overseas from Canada, but a total of 300,000 men are to be called up in the autumn for home defense, in ten monthly classes of 30,000 men, beginning with men aged 21. This home defense service will be compulsory, but only volunteers will be sent overseas. It has also been arranged that Canada shall furnish troops for garrisons in Iceland, in Newfoundland, and in the West Indies, and some of those have already taken up their stations. In addition to this military aid to Britain, Canada is, of course, the center of the new Empire Air Training Scheme; the first trained air crews produced under this scheme have recently passed into service, and from now onward the flow will be steady and increasing. Units of the Canadian Air Force, too, are already serving as units in this country, and ships of the Royal Canadian Navy have for many months been playing a full and glorious part in the daily work of policing the British seas, and keeping open the sea routes for our maritime traffic.

Nor must Canada's great industrial war effort be forgotten. Not only all her human, but also all her material resources are being rapidly mobilized. A large new rifle factory is shortly to be established, and Bren gun production is being accelerated. Air frames and engines are also being produced in increasing quantities at home, while purchases from the United States are being increased and speeded up. The war spirit of Canada was admirably expressed by General Odlum, who, arriving in England at the head of the fourth contingent in July, said, "We are all delighted to be here to share with the people of Great Britain the dangers and trials which face them. We know the road will be rough, but we are ready to take it. Germany has asked for it, and she is going to get it."

Less imposing, of course, but no less heartfelt and no less acceptable, is the contribution of little Newfoundland to the Imperial war effort. Already before the end of June last she had sent 5,400 men overseas, and 2,000 more were only waiting to go. Several War Loans have been raised, most of which have been rapidly oversubscribed within a few days of first issue. The flow of volunteers for the Royal Air Force has gone on in a steady stream. Small as Newfoundland's manpower resources are, she has given of them lavishly, and has promised yet further aid as opportunity offers. What more can any people, great or small, do to show their zeal, patriotism, and goodwill?

The Australian contribution has already been fully comparable to that she made in the Great War of 1914-1918. Her soldiers have come to the Middle Eastern theater of war as well as to this country—indeed, many of these are veterans of the last war, who are renewing in these same theaters their experiences of a quarter of a century ago, and put up their medal ribbons of that former war when they were a few days out at sea from home on their way to the conflict of today. They have not as yet had an opportunity to cross swords with their old enemies, or with their old allies of that day, the Italians, but the time for that will come, and probably soon, and the same magnificent military qualities which made the name of the Anzacs world-famous on the fields of Gallipoli, Palestine, and France will be found again in their descendants of 1940. Twenty-nine thousand men from Australia are even now overseas, and 40,000 more are under training at home ready to go when called upon. These will form in due course a full army corps of two divisions at war strength, quite apart from the four railway construction and survey companies, and two forestry companies which have already been formed for service outside the Commonwealth. For home defense there are permanent troops, militia, and garrison units, totalling 100,000 men, and the full establishment for this purpose of 250,000 will soon be reached by calling up additional classes of compulsory service recruits. Service overseas, as in the last war, will be on a voluntary basis, but with the spirit now pervading the whole of Australia's manhood, there will be little difficulty in keeping the ranks of the Expeditionary Force full.

The Royal Australian Navy has already won its spurs. H.M.A.S. Cruiser *Sydney*, emulating the exploits of her predecessor of the same name against the *Emden* in the last war, has sunk the Italian cruiser *Bartolomeo Colleoni* in the Mediterranean, and H.M.A.S. destroyer *Voyager* has accounted for an Italian submarine in the same war area. Other sister ships, taking their full share in the burden of the war, have not as yet had the opportunity of similarly distinguishing themselves, but their time will come, and all, most of all their foes, know that they will not be slow to take advantage of it when it comes. The personnel has risen from 7,000 to 12,000; the number of warships in commission has greatly increased, and 138 merchantmen have been defensively armed. The new shipbuilding program is going fast and well ahead; a new graving dock for warship repair is under construction at Sydney, and submarine and other naval personnel for the Navy are being trained in Australia.

The Australian Air Force has already given Germans and Italians more than one taste of its superb quality. A squadron has been operating under the British coastal command for many months, and Sunderland flying boats have taken considerable toll of enemy aircraft and submarines. Australia has contracted to train 57,000 airmen under the Empire Training Scheme, and her total of 125,000 volunteers is more than can be immediately absorbed. Many of these have already received full training, and are ready for service overseas. Many training machines are to be built in the Commonwealth, and before long fighting and bomber aircraft will be added to these. Fifty-five million pounds are scheduled to be spent in aircraft construction in the next three years.

In industrial war production, too, the Commonwealth is going full steam ahead. Her products include explosives, rifle and gun ammunition, antiaircraft guns, naval guns, and armored cars. She is already practically self-supporting in the matter of munitions, and is sending much overseas for the use of Great Britain, New Zealand, and India. "She has refused, and will refuse, Britain nothing," as one of her spokesmen has declared, thus echoing the words of her Prime Minister, "What we have said we shall fight for, we shall fight for until we have won."

New Zealand, whose people like to think of themselves as the most British of the Dominion peoples, is also pulling her full weight in the Imperial war canoe. Her troops are here, and also in the Middle Eastern theater; her naval ships are at sea with the Royal Navy, and one of them, the *Achilles,* won immortal fame in the battle of the River Plate against the *Graf Spee;* her airmen, too, are hard at work in the skies. The Maoris, once the most gallant and chivalrous foes that our army ever encountered in all the long annals of its Colonial wars, are now here to help to defend this country against invasion, and these picturesque warriors have made themselves as deservedly popular with us, as they will, no doubt, when their chance comes, render themselves feared and hated by the enemy. Among the specialized units to be raised in New Zealand from overseas service are a railway survey company, a railway construction company, two railway operating companies, and two forestry companies. Compulsory military service has been instituted, as in the last war; industrial war production is being pushed forward at full speed, and the whole manpower and resources of the land are being thrown into the war effort without stint.

Space does not permit us to tell of the contribution of India, of the Crown Colonies, or of the many small possessions, save to say that one and all of them have shown, in a fashion as spendid as it is touching, their zeal and patriotism and devotion to the common cause. Before this warlike array of freemen, each of whom "knows what he fights for, and loves what he knows," the hosts of totalitarianism, for all their frantic zeal and fierce courage and cruel ruthlessness, will assuredly in the end bend and break in defeat.

—from *The Tank* (England), September, 1940.

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"Like the manufacturer, the modern soldier must always look for something new and not stay hypnotized by the lessons of the last campaign, but that does not prevent him from giving them some consideration."

—General Estienne.

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"The issue of battle lies in the hearts of men—in the heart of the commander even more than in the hearts of the soldiers. The art of generalship is the art of dealing with human nature. To sustain the morale of his own men; to break down the morale of his enemy—these are the great objects. This aspect of war remains unchanged."

—Henderson.

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"The commanders of armies are more to be pitied than one would think. Without listening to them, all the world denounces them, the newspapers ridicule them, and yet, of the thousands who condemn them, there is not one that could command even the smallest unit."

—Frederick the Great.

Horse-Feathers

A Cavalry Song

During maneuvers a civilian friend in a nearby town invited a number of young officers to his home for refreshments. Among them, from one of the mechanized cavalry regiments, was a lieutenant who played the piano. In a huddle, having warbled various service songs, the cry was for the *Cavalry* Song. The resourceful "Lieutenant Cav-Mecz." in a resounding baritone immediately crooned "Empty Saddles."

* * *

SERGEANT A: Seems like your wife is always whining and moping.

SERGEANT B: Yeah, but I don't mind that. It's only when she whimpers that I feel like throwing her out. Jeze, the only thing I can't stand is a *whimpering* woman.

SERGEANT A: Yeah!

* * *

MESS SERGEANT: Why you looking so moon-eyed, son? Homesick?

RECRUIT: Them beans remind me of the kind Mom used to open.

* * *

Lis'n Rooks, Down South

"The worst o' your foes is the sun over-'ead:
You MUST wear your 'elmit for all that is said:
If 'e finds you uncovered 'e'll knock you down dead
An' you'll die like a fool of a soldier.

When first under fire an' you're wishful to duck
Don't look nor take 'eed at the man that is struck.
Be thankful you're livin' and trust to your luck
An' march to the front like a soldier.

If your officer's dead an' the sergeants look white,
Remember it's ruin to run from a fight:
So take open order, lie down and sit tight,
And wait for supports like a soldier.
Wait, wait, wait like a soldier . . ."

—KIPLING.

* * *

Honest!

In the August army maneuvers a recruit temporarily relieved a telephone operator at a cavalry outpost umpire station. About 2:00 A.M., Major D., umpire, rushed up and directed, "I'd like to speak to someone with a little authority."

RECRUIT: "Well, I have about as little authority as anyone around here. What do you want, Sir?"

"The Old Iron Horse"

This is to our pet, the old iron horse
whose feet are in tracks mounted on rubber
who meets all enemies with terrible force
and does away with all who don't find cover.

He travels all over any place or time
over rocks, trees, rivers, holes and hills
nothing can stop him as goes this rhyme
which is written from experience and thrills.

Instead of one this horse carries four
with plenty of ammunition and guns
instead of mounting you slide through a door
and instead of trotting he runs.

Never wait till he is dry to groom him
or wait every fifteen minutes for him to rest
for he is always full of vigor and vim
and has never failed at the test.

This is to the old iron horse
of the tin can cavalry
with all the force
and no rivalry.

—by R. A. P.
Det. 1st Armored Regiment,
Fort Knox, Kentucky.

* * *

RECRUITING SERGEANT: We try to put every man in that branch of the army for which he is especially fitted. What kind of work have you been doing?

ANXIOUS RECRUIT: Running a merry-go-round at a carnival.

RECRUITING SERGEANT: Fine! You'll be right at home in the mechanized cavalry!

—from *Foreign Service*.

* * *

COLORED TROOPER: How come yo' gwine ter re-up in the Air Cor'?

WHITE TROOPER: 'Cause a 'plane can't bite and kick you and step on your feet.

COLORED TROOPER: Dat's right, but when a hoss bucks an' throws yo, dar yo' is! When a 'plane throws yo', boy, whar is yo'? Gimme de good old cavalree!

"E" Troop, Second Cavalry

It's just an old stone barracks,
But it's home sweet home to us:
There is never a dull moment—
You can always find a fuss.

We're known as super-horsemen,
And as soldiers "push" the best.
In football and other sports
We can always pass the test.

We're always full of fun and fight,
And hard riding we all crave.
If someone e'er should slight "E" Troop
We'd all stand up and rave.

We've always had good officers,
The First Sergeant we all like.
Although we sleep in barracks
"Brother," WE can make that hike!

Now listen all you "Young-uns,"
Come closer, lend your ear:
If you should disregard our rules
We'll boot you out the rear.

Our home is in the Army
We are a jolly group
We couldn't ask for a better place
Than galloping, old "E" Troop.

—Carl N. Ramberg, Troop "E,"
2nd Cavalry, Fort Riley.
—From *Our Army*.

* * *

Lieutenant: "Don't drive so fast around corners, Trooper—it makes me nervous."

Scout Car Driver: "Why not do as I do, Sir? Close your eyes when we come to a corner."

* * *

Wise Guy

Whenever I hear these synthetic "generals" sounding off—I just go to my quarters and put an extra shine on my *cavalry insignia*.

We'll show 'em when the time comes! * # ! * ! .

—*Cav. Non-Com.*

* * *

Civi: "Boy, what I saw at the circus last night!! A guy jumps on a horse's back, slips underneath, catches hold of its tail and finishes up on the horse's neck."

Trooper: "'S nothin'! I did all that and more at my first equitation drill when I was a rookie in the Third Cavalry."

The Thousand Yard Blues

I've always wanted to be a shot
And make the Cavalry Team;
But shooting at a thousand yards
Is enough to get up my steam.

I line my sights upon the Bull
And start to squeeze the trigger;
The gun goes off, the target goes down
Where the shot went, I just can't figure.

I get a few lucky fives
Then I get a flock of fours;
I call the next one in the very same place,
All I get is "Old Maggie's Drawers."

The Team Captain says to me
"You've got nothing on the ball";
But shooting at a thousand yards
Is what's causing my downfall.

—Corporal Amadeo J. Jacobelli,
Cavalry Rifle Team,
Erie Ordnance Depot.

* * *

We're Mechanized Instead

Now we have a cushioned seat,
Instead of saddles hard,
Now instead of a mounted pass,
We have a driver's card.

Now instead of a horse that brays,
Our scout car motor purrs.
Now all we do is accellerate,
Instead of using spurs.

Now instead of a nine-mile trot,
Our speedometer needles rise,
Now instead of a grooming brush,
It's a wash and a Simonize.

Now instead of a sweaty horse,
In summer's hot sultry heat,
We air out on rubber tires,
Instead of iron-shod feet.

—Crave R. Page, *Service Troop,*
6th Cavalry, Fort Oglethorpe.
—From *Our Army*.

* * *

War

War is like a hospital (and another place)—*when you gotta go, you gotta go!*

The First American Cavalry

By CAPTAIN LUDWELL L. MONTAGUE, Cavalry-Reserve

THE first English-American employment of cavalry as an independent arm occurred during the latter phase of Bacon's rebellion in Virginia in 1676. Prior to that time horsemen had been used only as scouts and messengers incorporated with infantry commands.

During the Old Dominion's first fifty years mobility in military operations was attained by the use of boats. In those days settlement had not extended beyond the shores of the broad rivers leading deep into the interior, avenues of communication in themselves as well as impassable barriers to overland travel. If a concentration were to be effected, it could be done with greater secrecy and dispatch by water than by land, but that mode of transportation made it difficult to bring any considerable number of horses into the theatre of operations. However, when the land between the tidal rivers had been occupied and the Indian frontier, instead of paralleling their shores, followed the fall line, the new situation presented an opportunity for the employment of horsemen. Forts were established at the heads of navigation and the intervals between them were regularly patrolled by mounted rangers, one squad of whom was attached to each infantry garrison. In the lower counties, troops of cavalry were added to the militia establishment and these were combined into four regiments, one for each river. The organization was for administrative and training purposes only, since none of its units ever took the field. In an emergency each county would be called upon to furnish a quota to a provisional force. Thus in 1676 Northumberland, with two troops in its militia, fulfilled its obligation by sending six horsemen to the rendezvous. The men, who furnished their own horses and equipment, were armed with pistol, carbine, and "cutler" (cutlass?), weapons identical with those of the colonial infantry of that day, substituting carbine for musket. They were in fact mounted infantry, developed to meet American conditions rather than in imitation of European cavalry.

In 1671 there were only some forty thousand men, women, and children in all Virginia, including two thousand negro and six thousand white bondsmen, yet the governor, Sir William Berkeley, informed London that he could muster eight thousand horse, a number equal to one-fourth of the entire free population. No such force was ever called out. In 1674 five hundred men were summoned, one-fourth (125) to be horsemen. In 1676 a thousand men were called, but the number of cavalry was not increased.

The levy of 1676 was raised by the Assembly at the behest of Nathaniel Bacon for his campaign against the Indians, despite the opposition of Sir William. The cavalry component played no conspicuous part in either the Indian war or the expulsion of the royal governor, who had proclaimed the general and his army to be rebels, all of Bacon's engagements being infantry attacks on fortified positions, but after Bacon's death his successor, Lawrence Ingram, found a use for his horsemen.

Ingram's position was an awkward one. Berkeley, securely based on the Eastern Shore and commanding the sea, could strike unexpectedly and with all his force at any point on the Western Shore. To attempt to prevent a landing meant hopeless dispersion. Instead, the rebel general left fortified outposts along the coast and withdrew his main body to West Point, at the head of the York, whence he could march freely in any direction. There he also concentrated two hundred cavalry under his principal lieutenant, Walkelet. The mobility of that force would enable it to bring quick relief to any threatened point on the outpost line. Thus the embattled frontiersmen pitted the new-type horse-mobility against the old-type boat-mobility of their "cavalier" adversaries.

His Major Beverley having surprised and captured the outposts at the mouth of the York, Berkeley crossed the Bay in early November to raise the king's standard in Gloucester, where he was able to enlist some six hundred infantry under Major Lawrence Smith. Not daring to assail the rebel lion in his den, though in superior numbers, he then left Smith to contain Ingram and retired to Gloucester Point to organize expeditions against the detachment south of the York.

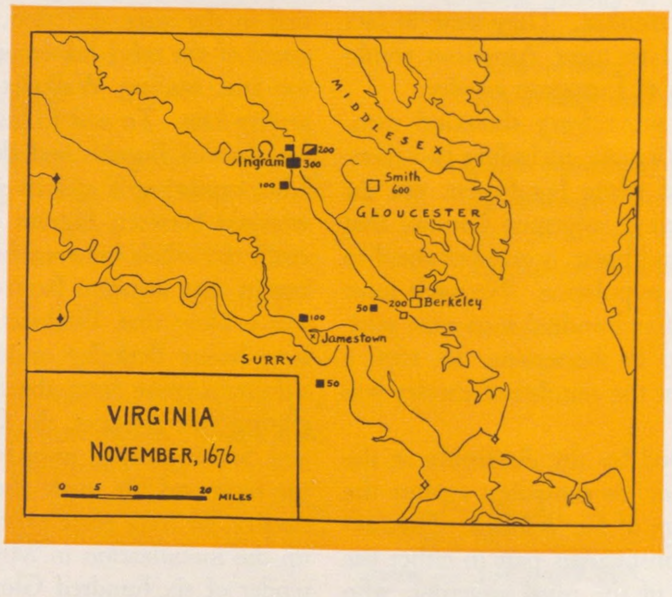
At this juncture, when the tide appeared to have set in strongly against the rebels, the cavaliers of Middlesex declared for the governor and began to embody their militia. Walkelet's cavalry was then unleashed and quickly dispersed the governor's friends in that quarter before they could complete their mobilization. Hearing that Walkelet was marching on Middlesex, Smith hurried in the same direction, but he could not match the speed of the rebel horsemen and consequently he arrived too late, finding Walkelet reconcentrated and ready to receive him. To add to his woe, he soon learned that in his absence Ingram had descended upon his Gloucester base, capturing it and its garrison. Smith thereupon interposed between Ingram and West Point, thinking to catch the rebels between himself and the deep, blue sea, but in that situation Ingram held the trump card, for it was evident that Walkelet could fall upon Smith's rear long before Berkeley could come up behind Ingram or aid could come from the fleet in York River. Contemplating that prospect, the Gloucestermen refused to fight and Smith escaped only by taking to the woods while the rank and file made their submission. Two hundred cavalry, by their mere existence and mobility, thus broke up the mobilization in Middlesex and procured the surrender of six hundred Gloucester infantry, enabling Ingram to reëstablish his authority between the York and the Rappahannock.

Late in December Berkeley's sailors succeeded in dispersing the isolated rebels in Surry, but his attacks on the Peninsula had failed and, anxious as he was to end the rebellion before suffering the humiliation of a rescue from England, it was evident, after the Gloucester fiasco, that he could not subdue Ingram by force of arms. At the same time Ingram was not eager to meet the thousand English regulars then on the high seas. In early January a capitulation was arranged. The prowess of the cavalry was held in such respect that, in order to bring them in, Berkeley was constrained to grant Walkelet even more generous terms than those allowed Ingram and the main body of rebellion. One of the provisions was that any of Walkelet's men who feared to go home to face vengeful county magistrates would be taken into the government service for the defense of the frontier against the original foe, the Indian.

Unfortunately for Berkeley's reputation, the capitulations were not faithfully observed, but the idea of entrusting the security of the frontier to cavalry was permanently adopted. Under Lawrence Smith, who presumably had learned something about mobility, four troops of two officers and thirty men each were initially constituted for the purpose, and with that fourfold increase in the number of mounted rangers the infantry garrisons were disbanded. Through five generations these men and their successors continued to fulfil that mission, moving westward with the settlements. The major operations of the Indian wars were performed by infantry, but the mounted ranger never disappeared as a type, for no one else could so well patrol an extended front or so rapidly concentrate to cover a threatened point while the infantry militia were being mobilized.

Colonel Bauer has shown how Washington was embarrassed by the poverty of fighting material in the socialite cavalry units of the seaboard militia. The question may arise why the rangers appeared in his army only as light infantry, why the mounted riflemen of the Southern backwoods and the cowboys of the Piedmont cattle ranges were not drawn upon as cavalry material. One consideration would be the remoteness of those regions from the northeastern theatre of operations. Another would be financial. It cost more to maintain horsemen in the field and Congress was notoriously unable to pay the little that it promised. (Cavalry *was* a rich man's game in such circumstances.) Finally, it should be remembered that the Revolution was not a frontal but an all-around defense, with British Indians on the west as well as Redcoats on the seaboard. The frontiersman was too busy defending his home to go off to the wars in New Jersey. When a British force, having shattered the eastern front, did approach the western front from the rear, transmontane horsemen proved both their existence and their primary concern by effecting a rapid concentration, striking swiftly and terribly at King's Mountain, and as abruptly vanishing into the West again. Sabres and lances did not appear on that battlefield, but it was a feat that infantry could not have performed.

For fifty years after the Revolution cavalry had no established place in the army of the United States, for reasons of economy, but infantry garrisons on the frontier relied upon local mounted rangers in every emergency. They played an important rôle at Fallen Timbers and covered the left flank in Illinois during the War of 1812. When cavalry was finally introduced into the federal service (for duty on the frontier), it was a tardy incorporation of the mounted ranger, developed from American material to meet practical American needs, and not an imitation of European models. It may therefore be argued that the "father of American cavalry" was not a distinguished Pole, but an obscure Virginian, the "mad boy," Walkelet.



War Department Changes

Cavalry Personnel

(From August 3, 1940 to September 21, 1940)

Second Lieutenant Joe Ahee, to 1st Armored Div., Fort Knox, Ky.

Major F. A. Allen, Jr., to GSC, War Dept., Washington, D. C.

Colonel H. T. Aplington, will be retired November 30 upon his own application.

Major G. S. Armes, transferred to AGD, on August 7.

Second Lieutenant B. M. Bailey, to 2nd Armored Div., Fort Benning, Ga.

Second Lieutenant T. B. Bartel, to 1st Armored Div., Fort Knox, Ky.

Captain R. M. Barton's orders amended to assign him as assistant to Q. M., Westover Field, Chicopee, Mass.

Lieutenant Colonel William T. Bauskett, Jr., from Ft. Bliss, Texas, Sept. 5, to I Armored Div., Ft. Knox, Ky.

Captain Wendell Blanchard's orders further amended to assign him 2nd Armored Division, Fort Benning.

Second Lieutenant John K. Boles, Jr., from Ft. Bliss, Texas, Oct. 1, to 1st Armored Div., Ft. Knox, Ky.

First Lieutenant F. C. Bridgewater, to 6th Reconn. Troop, Ft. Riley, Kan.

Major Kirk Broaddus, relieved as instructor, Kentucky N. G., Glasgow; assigned 1st Cav. Div., Fort Bliss.

Major C. O. Burch, relieved as instructor, Tennessee N. G., Chattanooga; assigned 2d Armored Div., Fort Benning.

Major C. E. Byers, detailer member of G.S.C.; assigned W.D.G.S., August 5, and office of C. of S., Washington, D. C.; relieved as student, Army War College; previous orders revoked.

Major Douglas Cameron, to 1st Armored Div., Ft. Knox, Ky.

Second Lieutenant John J. Carusone, prior orders amended; to 8th Div., Camp Jackson, S. C.

1st Lieutenant T. W. Chandler, to 2d Armored Div., Ft. Benning, Ga.

Colonel Robert W. Cheney, det. as member of Army retiring bd., hq., 9th C.A., Pres. of San Francisco, Calif.

Major C. C. Clendenen, relieved 7th Cav., Fort Bliss, September 1; detailed Augusta Military Academy, Fort Defiance, Va.

First Lieutenant L. F. Cole, 4th Div., Ft. Benning, Ga.

Lieutenant Colonel J. K. Colwell, will be retired August 31 for physical disability.

Major William S. Conrow, prior orders revoked; from Pres. of Monterey, to GSC, hq., 9th CA, Pres. of San Francisco, Calif.

Captain B. S. Cook, to 8th Div., Camp Jackson, S. C.

Second Lieutenant Howard V. Cooperider, from Ft. Oglethorpe, Ga., Sept. 5, to 1st Armored Div., Ft. Knox, Ky.

Colonel H. C. Dagley, detailed member Army retiring board appointed to meet headquarters, 5th C.A., Fort Hayes.

First Lieutenant W. F. Damon, Jr., to 9th Div., Ft. Bragg, N. C.

Second Lieutenant Edward McC. Dannemiller, from Ft. Bliss, Texas, to 2d Armored Div., Ft. Benning, Ga.

Second Lieutenant W. G. Dean, relieved 6th Cav., Fort Oglethorpe; assigned 1st Armored Div., Fort Knox.

Lieutenant Colonel F. C. DeLangton, relieved as instructor, N. Y. N. G., Albany; assigned 12th Cav., Fort Ringgold.

Captain L. R. Dewey, to 2nd Armored Div., Ft. Benning, Ga.

Captain P. A. Disney's orders amended to assign him 2d armored division, Fort Benning, instead of 7th Cav. Brig., Fort Knox; relieved Philippines.

Captain Edward J. Doyle, from Washington, D. C., to 1st Cav. Div., Ft. Bliss, Texas. Sail New York, Sept. 14, 1940.

Major J. T. Duke, relieved O.R., 3d C.A., Washington, D. C., Sept. 5; assigned office, C. of Cav., this city.

Major D. R. Dunkle, relieved as instructor, Ohio N. G., Cincinnati, Sept. 15; detailed O.R., 3d C.A., Washington, D. C.

Colonel H. M. Estes, relieved CCC, Fort Oglethorpe, October 1; assigned 4th Cav., Fort Meade, S. Dak.

Major C. W. Fake, relieved as instructor, Wyoming N. G., Douglas, September 25; assigned 2d Cav., Fort Riley.

Major F. W. Fenn, to 2nd Div., Ft. Sam Houston, Texas.

Lieutenant Colonel Norman E. Fiske, det. as member of GSC, War Dept. Gen. Staff, Washington, D. C., October 30.

Colonel Oscar Foley, appointed as acting Q. M., while on recruiting duty at Jacksonville, Fla.

Lieutenant Colonel L. G. Forsythe, relieved as instructor, Massachusetts N. G., Boston; assigned 1st Armored Div., Fort Knox.

Lieutenant Colonel Charles H. Gerhardt, from Pres. of Monterey, Calif., to GSC, Gen'l Hq., Washington, D. C.

Colonel W. W. Gordon, relieved detail in I. G. D. and assignment headquarters, 1st C.A., Boston, September 1; assigned 3d Cav., Fort Myer.

Major Leslie M. Grener, from Ft. Riley, Kansas, Sept. 5, to 2d Armored Div., Ft. Benning, Ga.

Second Lieutenant J. L. Grubb, to 2d Div., Ft. Sam Houston, Texas.

Second Lieutenant William H. Hale, from Pres. of Monterey, Calif., to 1st Armored Div., Ft. Knox, Ky. Sail S. F., Sept, 17, 1940.

Captain A. E. Harris, to 2d Armored Div., Ft. Benning, Ga.

Major A. J. Hart, relieved 8th Cav., Fort Bliss, Sept. 1; detailed O. R., 3d C.A., Pittsburgh.

Lieutenant Colonel P. S. Haydon, relieved as instructor, Kentucky N. G., Frankford; assigned 9th Cav., Fort Riley.

First Lieutenant Cecil Himes, from Pres. of Monterey, to 7th Div., Camp Ord, California.

Major H. I. Hodes, to GSC, War Dept., Washington, D. C.

Second Lieutenant Samuel M. Hogan, from Ft. Brown, Texas, to 1st Armored Div., Ft. Knox, Ky.

Major W. A. Holbrook, Jr., to GSC, War Dept., Washington, D. C.

Captain R. L. Howze, Jr., relieved staff, Cavalry School, Fort Riley, August 25; assigned office, C. of Cav., Washington, D. C.

Lieutenant Colonel W. G. Ingram, relieved as instructor, N. Y. N. G., Rochester; assigned recruiting duty, New York City.

Major C. C. Jadwin, relieved office, C. of S., Washington, D. C.; assigned as assistant military attaché, Rome, Italy.

First Lieutenant R. V. D. Janzan, to 1st Reconn. Troop, Ft. Devens, Mass.

Major M. E. Jones, to 6th Reconn. Troop, Ft. Riley, Kansas.

First Lieutenant McP. LeMoyne, to 1st Armored Div., Ft. Knox, Ky.

Lieutenant Colonel A. B. MacNabb, relieved as instructor, Pa. N. G., Tyrone; assigned 12th Cav., Fort Brown.

Second Lieutenant T. L. McCrary, to 1st Armored Div., Ft. Knox, Ky.

Major Morris H. Marcus, from Ft. Riley, Kansas, Sept. 2, to Mich. St. Coll. of Agr. and Appl. Science, East Lansing, Mich.

Captain M. H. Matteson, relieved 14th Cav., Fort Sheridan; assigned 7th Div., Camp Ord, sailing from New York for San Francisco, August 28.

Captain C. G. Meehan, to 9th Div., Fort Bragg, N. C.

Captain Whitside Miller's orders relieving him 2d Cav., Fort Riley, and assigning him 1st Armored Division, Fort Knox, revoked.

Captain H. W. Miller, to 3d Div., Fort Lewis, Washington.

Lieutenant Colonel G. H. Millholland, relieved as instructor, Pa. N.G., Sunbury; assigned 10th Cav., Fort Leavenworth.

Lieutenant Colonel H. C. Minuth, relieved as instructor, Idaho N. G., Boise; assigned 14th Cav., Fort Sheridan, sailing from San Francisco for New York, October 18.

Captain R. D. Palmer, to 4th Div., Fort Benning, Ga.

Major Lawrence Patterson, prior orders amended; retired Sept. 30, 1940, upon his own application after more than twenty-three years' service.

Lieutenant Colonel H. G. Paullin, relieved O. R., 2d C.A., Trenton, N. J.; assigned Recruit Reception Center, Fort Dix.

Second Lieutenant L. E. Pope, to 1st Armored Div., Fort Knox, Ky.

Captain J. B. Quill, to 1st Reconn. Troop, Ft. Devens, Mass.

Major R. S. Ramey, to GSC, War Dept., Washington, D. C.

Major Louis B. Rapp, from Ft. Meade, S. D., Sept. 10, to Overseas Disch. and Repl. Dep., Ft. McDowell, Calif.

Second Lieutenant Rowland H. Renwanz, from Lincoln, Neb., to 12th Cav., Fort Brown, Texas.

Second Lieutenant I. B. Richards, Jr., relieved 1st Cav. Div., Fort Bliss; assigned 1st Armored Div., Fort Knox.

Captain J. H. Riepe, to 5th Reconn. Troop, Camp Custer, Mich.

Captain Theodore S. Riggs, from Fort Riley, Kan., to off. of Ch. of Cav., Washington, D. C.

Colonel R. C. Rodgers, relieved 4th Cav., Fort Meade, S. Dak., October 1; assigned as director, Cavalry Board, Fort Riley.

Second Lieutenant James LeR. Rogers, from Ft. Brown, Texas, to 1st Armored Div., Ft. Knox, Ky.

Major L. E. Schick, transferred to A. G. D., on August 7.

Second Lieutenant J. W. N. Schulz, Jr., to 2nd Armored Div., Ft. Benning, Ga.

Lieutenant Colonel E. E. Schwien, to 1st Armored Div., Fort Knox, Ky.

Major J. K. Sells, to 1st Armored Div., Fort Knox, Ky.

Second Lieutenant E. McD. Serrem, to 1st Armored Div., Ft. Knox, Ky.

First Lieutenant Leonard C. Shea, prior orders amended; to 3rd Div., Ft. Lewis, Washington.

Lieutenant Colonel William R. Stickman, from Ft. McDowell, Calif., to I Armored Div., Ft. Knox, Ky. Sail S. F., Sept., 1940.

Major O. R. Stillinger, relieved as instructor, Michigan N. G., Detroit; assigned 1st Cav. Div., Fort Bliss.

First Lieutenant Hilwert S. Streeter, prior orders amended; to 1st Armored Div., Fort Knox, Ky.

Second Lieutenant Donald W. Thackeray, from Pres. of Monterey, Calif., to 5th Reconnaissance Tr., Camp Custer, Mich. Sail S. F. August 20, 1940.

Captain Frank J. Thompson, prior orders amended; sail S. F., October 18, to New York City.

Major William N. Todd, Jr., from New Orleans, La., to 9th Cav., Ft. Riley, Kan.

Major L. K. Truscott, Jr., relieved 1st Cav. Div., Fort Clark; assigned 1st Armored Div., Fort Knox.

Lieutenant Colonel A. H. Truxes, relieved as instructor; Tennessee N. G., Nashville; assigned 6th Cav., Fort Oglethorpe.

Second Lieutenant Matthew Whalen, prior orders revoked; from Ft. Riley, Kan., to Armored Div., Ft. Knox, Ky.

Lieutenant Colonel F. L. Whittaker, relieved 6th Cav., Fort Oglethorpe; assigned Fort Jackson.

First Lieutenant E. W. Williams, relieved Armored Force, Fort Knox; assigned 3d Cav., Fort Myer.

Major R. E. S. Williamson, detailed as member of G. S. C.; assigned W. D. G. S., August 5, and office, C. of S., Washington, D. C.; relieved as student, Army War College; previous orders revoked.

* * *

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